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SESSIONAL PAPERS

VOL. LXVI.—PART VI.

FIFTH SESSION

OF THE

EIGHTEENTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO

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SESSION 1934

TORONTO
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1935

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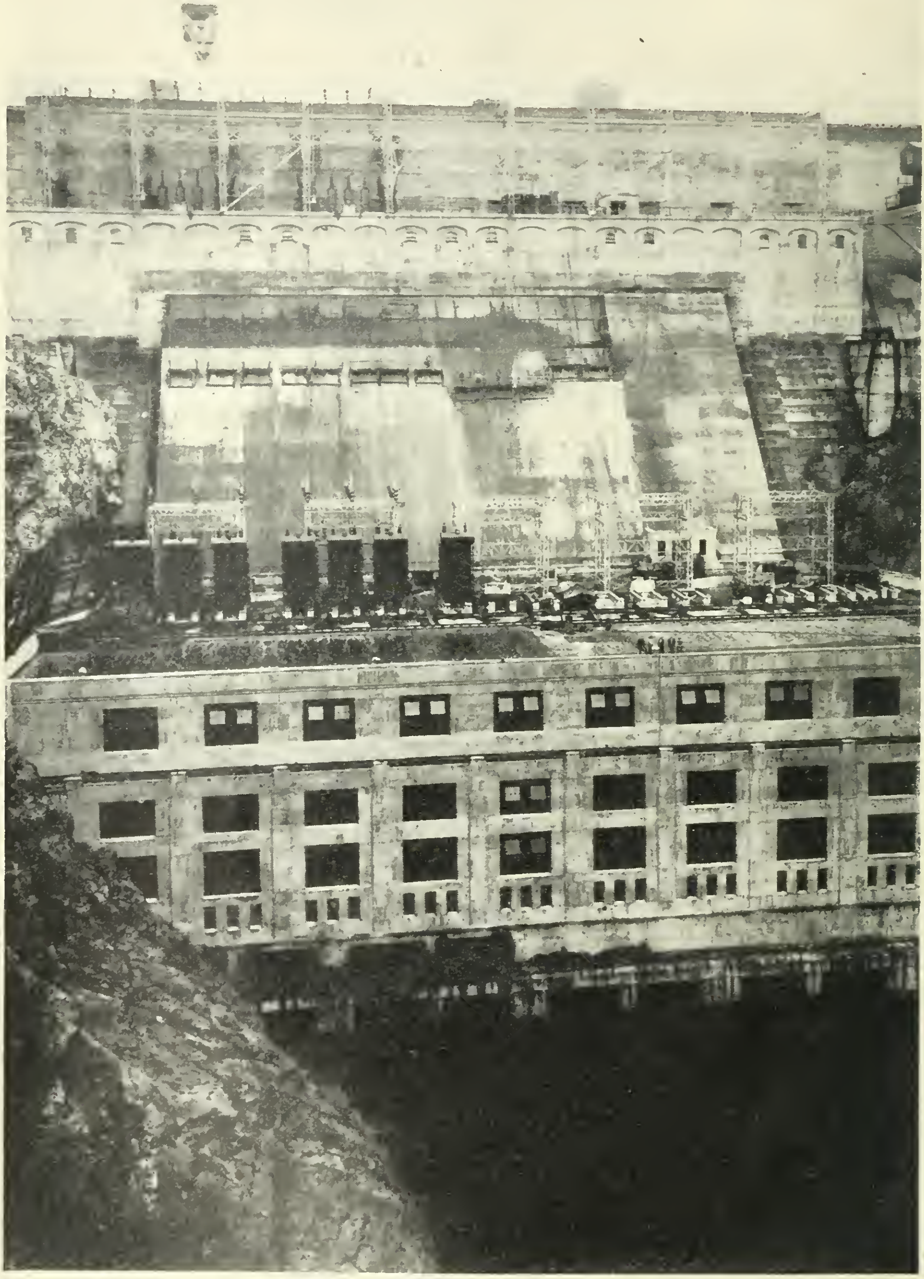

ABITIBI CANYON POWER DEVELOPMENT

Dam and power house from Canyon walls of tailrace.
The aggregate height of the structure from top of dam to normal tailwater level is about 250 feet.
Note the figures on the top of the power house roof.

TWENTY-SIXTH ANNUAL REPORT

OF THE

HYDRO-ELECTRIC POWER COMMISSION

OF THE

PROVINCE OF ONTARIO

FOR THE YEAR ENDED OCTOBER 31st

1933

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

ONTARIO

TORONTO
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1934

THE

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

Hon. J. R. Cooke, M.L.A.	*Chairman*
C. Alfred Maguire	*Commissioner*
Rt. Hon. Arthur Meighen, P.C., K.C.	*Commissioner*
W. W. Pope	*Secretary*
F. A. Gaby, B.A.Sc., D.Sc	*Chief Engineer*

To His Honour

THE HONOURABLE HERBERT A. BRUCE, R.A.M.C., M.D., F.R.C.S.,
Lieutenant-Governor of Ontario

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present to your Honour the Twenty-sixth Annual Report of The Hydro-Electric Power Commission of Ontario for the fiscal year ending October 31, 1933.

This Report covers all of the Commission's activities and also embodies the financial statements, for the calendar year 1933, of the municipal electric utilities operating in conjunction with the various systems of the Commission and supplying electrical service to the citizens of the Province.

Dealing, as it does, with a multiplicity of activities relating to several electrical systems obtaining power from thirty-nine hydro-electrical developments operated by the Commission, supplemented by power purchased from other sources, and recording financial and other data relating to the individual local municipal electric utilities, the Annual Report presents a large amount of statistical information, much of which must, of necessity, be of a summary character.

The financial statements, the statistical data and the general information given, however, are so arranged and presented as to give a comprehensive survey of the Commission's operations. Not only does the Report record the progress made during the past year, but it gives, in addition, certain cumulative results for the various periods during which operation has been maintained in the respective municipalities.

At the end of the fiscal year the number of municipalities served in Ontario by the Commission was 757. This number included 27 cities, 96 towns, 269 villages and police villages and 365 townships. With the exception of 13 suburban sections of townships known as voted areas, the townships and 91 of the smaller villages are served as parts of 171 rural power districts.

Constructional Activities

During 1933 the chief item of constructional work was the completion to its initial operating stage of the Abitibi Canyon development on Abitibi river. This work was carried out by the Commission for the Provincial Government. A description of the development will be found in Section IV of this Report.

Electrical construction work was confined chiefly to transformer stations for the supply of electric power to a number of Paper Companies to enable them to utilize secondary power in the generation of process steam. The Ontario Paper (Steam) transformer station, Thorold, with a capacity of 67,500 kv-a. in transformers and 90,000-kw. in electric steam generators, was installed and placed in service on February 2, 1933. At the Great Lakes Paper (Steam) transformer station Fort William two 8,000-kw. electric steam generators were installed and placed in service on October 1, 1933. At Provincial Paper (Steam) transformer station Port Arthur two 12,000-kv-a. transformers and two similar capacity electric steam generators are being installed. Further installations of a similar nature are under consideration.

Taking advantage of the relatively smaller amount of construction work many improvements are being made to the stations and equipment on the various systems.

Operating Conditions

The past year's operation of the systems has been satisfactory. Few interruptions to service occurred and failures of equipment were relatively few and not serious in extent.

Rainfall was much below normal and seriously reduced the stream flow and the capacity of the generating plants on the Eastern Ontario and Georgian Bay systems. On the Georgian Bay system the reduction in generating capacity was offset by an increased transfer of power from the Niagara system. On the Eastern Ontario system the low stream flow during certain periods reduced the capacity of all the generating stations on the Trent river to less than 40 per cent of their normal maximum capacity. A severe power shortage would have been experienced if a supplementary supply of reserve power had not been available from the Gatineau Power Co. The Nipissing district also experienced a period of low precipitation, but the storage works constructed by the Commission made it possible for the stream flow to be maintained in volume adequate to supply the demand for power.

The Commission has continued its efforts to protect the life and beauty of trees along the public highways on which power lines are situated. The Commission's Forestry Division employs men especially trained for this work, which has been carried out so as to protect the power lines and give reliable service without seriously impairing the beauty of the trees. The Commission's efforts in this respect have invoked many expressions of appreciation from highway and municipal authorities.

COST OF ELECTRICAL SERVICE FURNISHED BY THE COMMISSION

The function of the Commission is not only to use its best endeavours to provide for the people of Ontario an adequate and reliable supply of electrical energy, but also to ensure that the cost of that electrical energy to the consumers shall be the minimum consistent with the financial stability of the enterprise.

The success that has been attained in the accomplishment of the latter object may be appreciated by a careful study of the actual rates to consumers as presented in Statement "E," and of the statistical data setting forth the results that have been attained for the consumers under these rates, as presented in Statement "D," in conjunction with the various financial statements of the Report.

The bill for retail service rendered, is the practical aspect of Hydro service with which the average consumer is most concerned. It is, therefore, a satisfaction to note that except in a very few cases the rates for service during the period of depression have been maintained at their low levels or have been made lower.

The knowledge that there are substantial reserves of power is a distinct encouragement to the industrial organizations of the Province. Moreover, notwithstanding the generous use made of electrical service by the domestic and rural consumers in Ontario, there is still a large potential market for numbers of electrical appliances which the low cost of electricity makes it economically practicable to use.

Low Rates for Domestic Hot-Water Heating

The slackening in demand for power for industrial purposes has enabled the Commission to encourage further use of power for domestic service. The hot-water heater campaign inaugurated during the year 1933 has been successful and incidentally has resulted in the development of better electric water-heating equipment than was previously available. The heaters are installed without capital cost to the consumer, but even at the low rates approved for their operation the revenue obtained is usually sufficient to defray their initial cost in less than a year. Thereafter their continued use results in increased revenue to the municipal utilities and to the system. From the consumers' standpoint the benefits of this service are greatly appreciated.

LOAD CONDITIONS

The demand for power from the Commission's systems has increased during the year, as shown by the table given below:—

	October 1932	December 1932	October 1933	December 1933
Niagara system, 25 cycle (Canadian loads only)	816,505*	786,059	961,059	1,060,268
Other systems, total	239,438	251,898	311,038	379,778
Grand total (Canadian loads only)	1,055,943*	1,037,957	1,272,097	1,440,046

NOTE.—Power resold to the Gatineau Power Co. is included in the above table. The 1932 figures which are affected are indicated by an asterisk.

Both this table and the table which follows are similar to the tables which appeared in last year's Annual Report. In order to make the 1932 figures strictly comparable with those of 1933 it has been necessary to include in October, 1932, 27,500 horsepower which was resold to the Gatineau Power Company in that month. Further particulars regarding this change are given in the operating section of the Report.

The total Canadian loads during the months of October and December, 1933, were very much greater than the loads for the corresponding months of 1932. The greater part of the increase is in secondary power, the sale of which is of advantage both to the Commission and to industry, so long as it can be supplied. There is, however, an important though less pronounced increase in the primary or firm load which occurred during the latter part of the year and which has been persistently maintained over a considerable period in a way which is most encouraging.

In last year's Report reference as made to the fact that the marked downward trend of load in 1931 had been largely arrested, and that the decrease in 1932 was very slight. During December of 1932 and January of 1933, further decreases occurred, but since April, 1933, the trend has been steadily upward. By the end of the fiscal year, October 31, 1933, all ground lost during the first part of the year had been regained, and the year closed with a net increase. This gain for 1933 seems of special significance when compared with the losses of 1931 and 1932. The load losses of 1931 and 1932 have not yet been completely regained, and the rate of increase for the firm load in 1933 is not as great as the average rate of increase established over a long period of years prior to the depression. Therefore, the effects of the industrial depression are still apparent in the statistics for load during 1933, but after the sharper effects of the depression in 1931 and 1932, it is encouraging to find that 1933 shows actual improvement.

The following tabulation corresponds to that given for several years in this place in the Report, and shows the power supplied to the various systems at the close of the fiscal and calendar years. The figures given show the total load of each system and therefore include power exported as well as secondary power and primary power. The figures given for the Niagara system do not correspond to those shown in the table given above, as the first table covers Canadian load only, exclusive of export, whereas the second table shows the total load including export.

DISTRIBUTION OF POWER TO SYSTEMS

20-MINUTE PEAK HORSEPOWER
SYSTEM COINCIDENT PEAK

System	October 1932	December 1932	October 1933	December 1933
Niagara system 25 cycle	867,446*	838,338	1,055,697	1,134,262
Dominion Power and Transmission system	43,968	48,525	45,710	51,743
Georgian Bay system	25,666	26,424	23,887	25,496
Eastern Ontario system	80,544	86,716	86,890	116,127
Thunder Bay system	65,700	63,800	90,450	120,000
Manitoulin rural power district	....	....	80	84
Northern Ontario Properties:				
Sudbury district	17,761	20,576	12,466	12,802
Abitibi district			45,389	46,890
Nipissing district	3,751	3,799	3,539	3,901
Patricia district	2,048	2,058	2,627	2,735
Totals	1,106,884*	1,090,236	1,366,735	1,514,040

*NOTE.—Power resold to the Gatineau Power Co. is included in the above table. The 1932 figures which are affected are indicated by an asterisk.

FINANCIAL SUMMARIES

The financial statements embodied in this Report are presented in two main divisions, namely, a division—Section IX—which deals chiefly with the operations of the Commission in the generation, transformation and transmission of electrical energy to the co-operating municipalities; and a division—Section X—which deals with the various operations of the municipal electric utilities in the localized distribution of electrical energy to consumers. In Section IX, "Rural Operating" reports are also given, which summarize the results of the local distribution of rural electrical service by the Commission to the individual consumers in rural power districts. This work is performed by the Commission on behalf of the respective townships co-operating to provide rural service.

The cumulative results of the operation of the several systems of the Commission as set forth in this Report demonstrate a sound financial condition.

CAPITAL INVESTMENT

The total investment of the Hydro-Electric Power Commission of Ontario in power undertakings and hydro-electric railways is $285,003,969.26, exclusive of government grants in respect of construction of rural power districts' lines; and the investment of the municipalities in distributing systems and other assets is $109,657,573.64, making in power and hydro-electric railway undertakings a total investment of $394,661,542.90.

The following statement shows the capital invested in the respective systems, districts and municipal undertakings:

Niagara system	$201,975,671.41
Chats Falls development	6,167,756.08
Georgian Bay system	8,394,645.25
Eastern Ontario system	19,372,833.44
Thunder Bay system	18,630,772.18
Manitoulin rural power district	32,625.79
Northern Ontario properties	23,790,137.37
Hydro-Electric railways	2,076,924.94
Office and service buildings, construction plant, inventories, etc.	4,562,602.80
	$285,003,969.26
Municipalities distributing systems and other assets (exclusive of $26,045,679.00 of municipal sinking fund equity in H.E.P.C. system)—all systems	109,657,573.64
	$394,661,542.90

REVENUE OF COMMISSION

The revenue of the Commission derivable from the municipal utilities operating under cost contracts and from other customers with whom—on behalf of the municipalities—the Commission has special contracts, all within the

Niagara, Georgian Bay, Eastern Ontario and Thunder Bay systems, Manitoulin rural power district and Northern Ontario properties, aggregates $27,520,853.79.

The following statement shows how this revenue has been appropriated:

Revenue from municipal electric utilities and other power customers		$27,520,853.79
Operation, maintenance, administration, interest and other current expenses	$27,275,570.17	
Reserves for sinking fund, renewals, contingencies and obsolescence provided in the year	4,839,838.70	
	$32,115,408.87	
Less: Appropriated from obsolescence and contingencies reserves	4,236,606.73	
		27,878,802.14
Net balance charged to municipalities under cost contracts		$357,948.35

In connection with the foregoing statement it should be noted that, in making its annual determinations of costs chargeable for power supplied to the participating municipalities, the Commission for many years has followed a policy which recognizes the desirability of stabilizing the costs per horsepower one year with another. Commencing with 1926 and continuing to 1930, there were included in the amounts set aside to the reserve for obsolescence and contingencies, additional sums designed to care for possible lean years that might come in the future. A proportion of these extra reserves was derived from the profitable employment of system reserve generating equipment. In 1933 the contingency reserve was drawn upon in the case of the Niagara system to the extent of $4,236,606.73. This relief was given to the municipalities in their cost of power to compensate for the increased costs and reduced revenues in the year. In all other respects the various reserves have continued to be accumulated on the same basis as formerly, with the result that in the aggregate the reserves of the Commission show a net increase for 1933 of $3,290,453.57 as compared with the totals at the end of 1932.

Rural Electrical Service

During the past few years very substantial progress has been made in Ontario in the field of rural electrification. Practically all rural electrical service is now given through rural power districts which are operated directly by the Commission. There is now rather more than $17,690,000 invested in the rural power district systems established by the Commission. Towards this rural work the Ontario Government, pursuant to its policy of promoting the basic industry of agriculture, has, in the form of grants-in-aid, contributed 50 per cent of the costs of transmission lines and equipment, or some $8,750,000. A total of 9,244 miles of transmission lines have been constructed to date, of which 326 miles were constructed during the past year. There are now about 62,000 customers supplied in the rural power districts.

RURAL POWER DISTRICTS—OPERATIONS FOR THE YEAR 1933

	Niagara system	Georgian Bay system	Eastern Ontario system	Thunder Bay system	Manitoulin rur. power district	Nor. Ont. Nipissing district	Totals
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Cost of power as provided to be paid under Power Commission Act	810,110.29	107,127.66	193,481.31	3,591.41	3,281.25	4,115.38	1,121,707.30
Cost of operation, maintenance and administration	557,105.44	56,844.72	121,212.84	3,509.95	1,447.26	2,818.63	742,938.84
Interest	294,442.54	36,600.19	77,164.46	2,307.24	1,434.09	926.80	412,875.32
Renewals	251,397.57	28,890.44	62,925.98	1,738.59	996.29	723.40	346,672.27
Obsolescence and contingencies	125,698.79	28,890.44	31,462.99	869.29	476.90	361.70	187,760.11
Sinking fund	66,871.35	7,986.56	16,863.37	457.68	285.45	194.22	92,658.63
Total expenses	2,105,625.98	266,340.01	503,110.95	12,474.16	7,921.24	9,140.13	2,904,612.47
Revenue from customers	2,063,370.73	236,399.48	470,228.73	9,275.86	6,537.40	10,211.29	2,796,023.49
Net surplus, all districts						1,071.16	1,071.16
Net deficit, all districts	42,255.25	29,940.53	32,882.22	3,198.30	1,383.84		109,660.14
Net deficit, all systems							108,588.98

As indicative of the steady progress being made by co-operative effort between the Commission and the rural consumers in reducing the cost of electrical service, it may be stated that whereas in 1929, 7,700 consumers were being served in 13 rural power districts in which the primary rate was 3 cents per kilowatt-hour; in 1933 more than 21,000 consumers in 23 rural power districts were enjoying a primary rate of 3 cents or less per kilowatt-hour. During the same period the number of consumers in rural power districts where the highest primary rate of 8 cents per kilowatt-hour was in force had diminished, notwithstanding the number of new districts in operation. Most of the consumers in the districts where the primary rate was 3 cents or less per kilowatt-hour had a follow-up rate of 1.5 cents or less per kilowatt-hour, while even the consumers in the districts where the primary rates were highest obtained additional energy over the reasonable class demand minimum at a rate of 2.0 cents per kilowatt-hour. All these rates are, of course, subject to the prompt payment discount of 10 per cent.

MUNICIPAL ELECTRIC UTILITIES

The following is a summation of the year's operation of the local electric utilities conducted by municipalities receiving power under cost contracts with the Commission:

Total revenue collected by the municipal electric utilities		$30,627,841.88
Cost of power	$19,330,861.58	
Operation, maintenance and administration	5,189,385.78	
Interest	2,426,286.35	
Sinking fund and principal payment on debentures	2,319,319.09	
		29,265,852.80
Amount available and set aside for depreciation and other reserve purposes		$1,361,989.08

The setting-up of the reserves on rates customarily adopted in the past would have required an amount of $1,989,000.41, which is $627,011.33 in excess of the amount shown in the foregoing table as available for the present year. In this connection it is important to note that the municipal Hydro utilities provide for the retirement of their capital liabilities by either the instalment or sinking-fund method, and such payments are treated as part of the cost of the service.

RESERVES OF COMMISSION AND MUNICIPAL ELECTRIC UTILITIES

The total reserves of the Commission and the municipal electric utilities for sinking fund, renewals, contingencies and insurance purposes amount to $129,172,759.94 made up as follows:

Niagara system	$52,380,601.09
Georgian Bay system	2,822,302.39
Eastern Ontario system	5,338,115.82
Thunder Bay system	3,104,669.25
Northern Ontario properties	625,282.56
Nipissing rural power districts and Manitoulin rural power district	7,559.71
Service building and equipment	706,848.99
Bonnechere storage	3,536.97
Hydro-Electric Railways (Guelph)	121,481.78
Insurance, workmen's compensation and staff pensions	4,322,861.69
Total reserves of the Commission	$69,433,260.25
Total reserves of municipal electric utilities	59,736,819.76
Total Commission and municipal reserves	$129,170,080.01

As has been commented above in connection with the statement of revenues, the total reserves of the Commission increased in 1933 by $3,287,773.64 over the total for 1932, which was $66,145,486.61. The fact that the net increase in total reserves was, in 1933, less than in some former years, reflects the advantageous working out of the Commission's policy of cost stabilization, under which withdrawals were made in 1933 from special reserves provided out of revenues of earlier years for that purpose. The net increase in the total of Commission and municipal reserves for the year was $6,399,976.10.

The consolidated balance sheet of the municipal electric utilities, on page 288, shows a total cash balance of $1,696,489.24, and bonds and other investments of $2,163,785.20. The total surplus in the municipal books now amounts to $41,612,778.64 in addition to depreciation and sundry other reserves aggregating $18,124,041.12; these two amounts making the total of $59,736,819.76 shown in the above table.

The following is a brief summary of the principal operations relating to the several systems of the Commission:

NIAGARA SYSTEM

The Niagara system embraces all territory lying between Niagara Falls, Hamilton and Toronto on the east and Windsor, Sarnia and Goderich on the west served with electrical energy generated at plants on the Niagara and Ottawa rivers, supplemented with purchased power transmitted from plants on the Niagara, Gatineau, St. Lawrence, Ottawa and Lievre rivers. A few municipalities and districts of the Niagara system are served also with power developed at DeCew Falls near St. Catharines.

Arrangements for progressive delivery of increased quantities of power, made some years ago, will furnish power supplies for this system, which, with a moderately rapid return to normal business conditions, should be adequate for the immediate future. In addition to power contracted for with the Gatineau Power Company, and power obtained from the development at Chats Falls which provides the Commission with 192,000 horsepower, the Commission holds contracts for the delivery of additional power, amounting eventually to 250,000 horsepower, to be developed on the St. Lawrence river by the Beauharnois Light, Heat & Power Company, and 125,000 horsepower to be delivered to the Commission as required from a plant on the Lievre river under a contract with the James MacLaren Company, Limited, subsequently assigned to a subsidiary power company known as MacLaren-Quebec Power Company. The first block of 20,000 horsepower to be taken under the contract with the MacLaren-Quebec Power Company was taken July 1, 1933, and the second block of power to be taken from the Beauharnois Light, Heat & Power Company, amounting to 40,000 horsepower, was taken October 1, 1933.

The total capital invested by the Commission on behalf of the co-operating municipalities of the Niagara system amounts to $208,143,427.49. This amount includes the investment in the power properties purchased from the Dominion Power and Transmission Company (which have been merged with, and now form part of the Niagara system), also the Commission's share of the generating plant at Chats Falls, together with the transformer and switching stations at that point and the transmission lines from the Ottawa river to the Niagara system. The accumulated reserves for renewals, obsolescence, contingencies and sinking fund, aggregate $52,380,601.09.

From the rural power districts of this system, which are directly operated by the Commission, the revenue received for the year from customers was $2,063,70.73, and the total cost of supplying the service was $2,105,625.98, leaving a balance of $42,255.25, which has been charged to the districts in this system.

With respect to the electric utilities of the various urban municipalities of the Niagara system, the cost of power, as adjusted by the Commission at the close of the year was $246,061.75 more than the total amount collected at the interim rates and this sum has been charged to the municipal utilities. The total revenue of the municipal electric utilities served by this system was $25,024,438.69.

After meeting all expenses in respect of operation—including interest—setting up the usual standard depreciation reserve (which amounted to $1,604,015.63) and providing $2,108,108.41 for the retirement of instalment and sinking-fund debentures, the total net shortage for the year for the municipal electric utilities served by the Niagara system amounted to $652,392.31.

GEORGIAN BAY SYSTEM

The territory served by the Georgian Bay system includes that portion of the Province adjacent to Georgian bay and lake Simcoe. The area extends

Errata—The total reserves in text of page xii should be the same as the totalled details, namely, $129,170,080.01.

The revenue figure in third paragraph on page xiii should be $2,063,370.73 as on page xi.

The figure of net increase in next to last line of second paragraph on page x should be $3,287,773.64 as shown in third paragraph of page xii.

from Huntsville in the north to Port Perry in the southeast, and on the west and north it is bounded by lake Huron and Georgian bay. It thus takes in the counties of Bruce, Grey, Dufferin, and Simcoe, and the northern portions of the counties of Huron, Wellington and Ontario, as well as a large portion of the district of Muskoka. The territory served by this system lies immediately north of the Niagara system and west of the Eastern Ontario system.

During the year the distribution system purchased from The Mildmay Electric Company in the village of Mildmay, was sold to the Corporation and a cost contract executed with the latter for a supply of power under the Power Commission Act. The property purchased from The Formosa Electric Light Company last year was reconstructed and merged into the Bruce rural power district.

Electrical energy for the Georgian Bay system is obtained from eleven hydro-electric generating plants at South Falls, Hanna Chute, and Trethewey Falls on the south branch of the Muskoka river, at Bala on the Muskoka river, at Wasdells Falls and Big Chute on the Severn river, at Eugenia Falls on the Beaver river, and at Hanover, Walkerton and Southampton on the Saugeen river. The output of these generating plants is supplemented by the purchase of power from the Niagara system, delivered through frequency changer equipment at Hanover and Mount Forest.

Load conditions in the various municipalities of the system remained practically constant throughout the year in comparison with previous year conditions, although some new load was secured in one of the municipalities during the latter part of the year. The power supplied to summer resort districts forms an important part of the Georgian Bay system load, and the peak demand of this class of business was considerably greater than during last year, although it does not show up in the yearly average due to the fact that it is all supplied during the summer months only.

The lack of rainfall during the summer and fall months of the year seriously affected the stream flow of the rivers on which the various developments are situated, necessitating the purchase of a larger block of power from the Niagara system, than was purchased last year.

The total capital invested by the Commission on behalf of the co-operating municipalities in the Georgian Bay system is $8,394,645.25 and the accumulated reserves for renewals, obsolescence, contingencies, and sinking fund aggregate $2,822,302.39.

The revenue received from consumers in the rural power districts of this system directly operated by the Commission was $236,399.48 and the total cost of supplying service to same was $266,340.01, leaving a balance of $29,940.53 to be charged to these districts, as detailed under financial statements in Section IX of this Report.

The actual cost of power supplied by the Commission during the year to the electric utilities of the various urban municipalities of the Georgian Bay system served under cost contracts was $55,972.57 less than the total collections under the interim rates. This sum has been credited to the various municipalities directly affected. The total revenue of the municipal electric utilities served by this system was $1,135,255.35, a decrease of $18,366.96 as compared with the previous year.

After meeting all operating expenses and fixed charges, including interest, and the standard depreciation reserve amounting to $71,460.00, as well as providing $59,232.44 for the retirement of instalment and sinking fund debentures, the combined municipal electric utilities of the Georgian Bay system show a net loss for the year of $2,454.88.

EASTERN ONTARIO SYSTEM

This system serves that part of Ontario lying east of the areas served by the Georgian Bay and Niagara systems. The districts included are the Central Ontario, St. Lawrence, Rideau, Ottawa and Madawaska.

Power is supplied from developments owned by the Commission on the Trent Canal system, the Mississippi and Madawaska rivers. Power is purchased from the Gatineau Power Company, the Rideau Power Co. and the Beach Estate at Iroquois. The Cedar Rapids Transmission Company has also been supplying power to the Commission during the year but notice was given of cancellation of this contract on December 31, 1932. No other major changes were made in generation or transmission facilities during the year.

All the municipal distribution properties forming part of the old Electric Power Company properties have now been sold to the municipalities concerned, with the exception of the plants in Millbrook, Newburgh, Newcastle and Orono and the gas plant in Cobourg. The municipality of Orono has entered into negotiations with this Commission for the purchase of the local distribution system.

While the power demands of this system are somewhat less than last year, the amount of purchased power from the Gatineau Power Company and other private companies has been very necessary owing to the shortage of power occasioned by the low water on the Trent river.

The total capital invested by the Commission on behalf of the co-operating municipalities amounts to $19,372,833.44 and the accumulated reserves for renewals, obsolescence, contingencies and sinking fund aggregate $5,338,115.82.

The rural power districts of this system, which are directly operated by the Commission, show the revenue received for the year from customers as $470,228.73 and the total cost of supplying service to be $503,110.95, leaving a balance of $32,882.22, which was charged to the districts in this system.

With respect to the electric utilities of the various urban municipalities of the Eastern Ontario system operating under cost contracts, the actual cost of power supplied by the Commission during the year was $35,131.42 less than the total amount collected at the interim rates and this has been credited to the municipal utilities. The total revenue of the municipal electric utilities served by this system was $3,142,850.15, a decrease of $35,906.10

After meeting all expenses in respect of operation—including interest—setting up the usual standard depreciation reserve (which amounted to $176,758.10) and providing $130,523.35 for the retirement of instalment and sinking-fund debentures, the total net surplus for the year for the municipal electric utilities served by the Eastern Ontario system amounted to $82,632.61.

THUNDER BAY SYSTEM

The territory served by the Thunder Bay system lies wholly within the district of Thunder Bay, practically all of the power being utilized by the cities of Port Arthur and Fort William, and the rural sections immediately adjacent thereto, and by the village of Nipigon.

Power is obtained from two hydro-electric developments on the Nipigon river, one at Cameron Falls and one at Alexander, and, in addition to supplying the domestic and commercial requirements of the municipalities mentioned, is used largely by the pulp and paper industry and the grain trade. A marked improvement has taken place in the load supplied on this system, especially during the latter portion of the year, due principally to the increased production by the pulp and paper mills, and also to an extensive use of secondary power sold on an "at-will" basis for the generation of process steam. Contracts already negotiated for the latter class of load, plus power sold on a firm power basis, will, during the coming year, require the entire generating plant capacity of the two developments serving this system. The total investment of the Commission in the Thunder Bay system is $18,630,772.18, and the accumulated reserves for renewals, contingencies and sinking fund amount to $3,104,669.25.

From the rural power districts of this system, which are operated directly by the Commission, the revenue received for the year from customers was $9,275.86, and the total cost of supplying the service was $12,474.16, leaving a balance of $3,198.30, which has been charged to the districts in this system.

The cost of power supplied by this system during the year was $95,683.25 in excess of revenue obtained from the interim monthly billing. This represents a substantial improvement over last year's conditions. A much better showing will be made during the next year when the new contracts previously referred to will be in operation for the full twelve months of the year. The total revenue of the municipal electric utilities in this system was $1,325,297.69. The municipalities served by this system operated with a net loss of $54,796.75 after meeting all operating expenses—including interest—and setting up the standard depreciation reserve amounting to $42,481.14 and providing $21,454.89 for the retirement of installment and sinking fund debentures.

MANITOULIN RURAL POWER DISTRICT

This rural power district supplies electrical service to the area surrounding the town of Gore Bay and the hamlet of Mindemoya. Other sections of Manitoulin island, including the town of Little Current, the village of Manitowaning and the hamlet of Shequiandah and adjacent areas, have also made application for service, and various meetings were held for the purpose of submitting information to the communities mentioned. A complete investigation was made with respect to extending lines, and obtaining a supply of power from an additional source for this new load.

At the present time the district is supplied with power purchased from the Kagawong development of the Little Rapids Pulp Company.

NORTHERN ONTARIO PROPERTIES

The area in which are situated the Northern Ontario Properties comprises the entire portion of the Province lying north of lake Nipissing and French river areas, and west of the Quebec boundary, exclusive of the territory served by the Thunder Bay system. The active districts in which power is actually being delivered by the Commission include North Bay and the vicinity, in the district of Nipissing; Sudbury, and the vicinity in the district of Sudbury; Iroquois Falls in the district of Cochrane, and the Red Lake mining camp in the district of Patricia. These various districts are being served under a direct agreement with the Government of the Province. They are not interconnected, and are served under entirely different conditions than those prevailing in the southern and eastern portions of the Province. Many sections in the northern part of the Province are served by independent municipal utilities, and the Commission, during the year, has, upon request, given engineering advice and assistance concerning the operation and maintenance of the local systems, to many of these utilities.

NIPISSING DISTRICT

The area served in this district includes the city of North Bay, the town of Powassan and the unincorporated hamlets of Callander and Nipissing and portions of the townships of Ferris, Himsworth, Nipissing and Widdifield. Power is obtained from hydro-electric developments at Nipissing, Bingham Chute and Elliott Chute on the South river, supplemented when necessary by purchased power from the Abitibi Power and Paper Company's development at Crystal Falls on the Sturgeon river.

Very little change occurred in the demands of this district throughout the year, compared with the previous year; consequently, no generating plant, transformation or transmission changes other than those of a routine nature were required.

SUDBURY DISTRICT

This district includes the area adjacent to the city of Sudbury which is served at 60 cycles from three power developments on the Wanapitei river. Power is supplied for municipal and lighting purposes to the city of Sudbury, and to large mining companies in the Sudbury basin. A substantial increase in load has taken place on this system during the year, due to one of the large mining companies having increased its demand by approximately 50 per cent, in consequence of which the plant capacity of the developments is completely sold, and any further load expansion will have to be taken care of at 25 cycles from the Abitibi Canyon transmission line system, or by the installation of frequency changer sets for transformation from 25 to 60 cycles.

ABITIBI DISTRICT

This district embraces that section of the Province within transmission distance of the Abitibi Canyon development and includes the mining areas adjacent to Sudbury, Timmins and Kirkland Lake. During the year the Commission assumed, on behalf of the Government of the Province, the operation of the Abitibi Canyon development and transmission line system formerly the property of The Ontario Power Service Corporation Limited. Power is being supplied at the present time to a large mining industry at Copper Cliff and negotiations have been carried on with a number of mining companies in the Porcupine, Kirkland Lake and Swayze camps, and it is anticipated that a number of these companies will be supplied during the coming year. A contract was completed with The Canada Northern Power Corporation for supplying all of the future load growth of this company for a term of ten years.

Patricia District

This district comprises the territory included in that portion of the Province lying within the geographical area bearing the same name. At the present time the Commission in this district is operating one power development only. It is situated at the foot of Lac Seul on the English river and power is being supplied to a large gold mine in the Red Lake mining camp. Power is available for any other mining property within transmission distance of this development. A large increase in the load on this development has taken place during the year, due to the mining company served having substantially increased its milling capacity. The total load, averaged over the year, shows an increase of 3 per cent, but the load during the latter part of the year was gradually increasing. The peak load, occurring in October, shows an increase of 28 per cent over the previous year.

A survey was made and an estimate prepared in connection with a development on the Albany river at the foot of lake Joseph for two other mining properties in the Patricia district. It is expected that contracts will be closed early next year, and arrangements made to proceed with the construction of this development.

The Annual Report

The Table of Contents, pages xxv and xxvi, conveys a good understanding of the scope of the matters dealt with in the Report, to which there is also a comprehensive Index. To those not conversant with the Commission's Reports the following notes will be useful.

In Section II, pages 5 to 60, dealing with the Operation of the Systems, are a number of interesting diagrams showing, graphically, the monthly loads on the various systems. Tables are also presented showing the amounts of power taken by the various municipalities in October during the past three years.

The rural distribution work of the Commission has proved of widespread interest and special reference to this is made in Section III, on pages 69 to 88. The power distributed to rural districts is, and possibly must always be, but a relatively small proportion of the power distributed by the Commission. The supplying of electrical service in rural areas, and especially on the farm, has, however, been of great economic benefit to Ontario. The Provincial Government grants-in-aid of the capital cost of this work have been of value to agricultural activities, and have assisted the Commission to extend rural transmission lines to many areas.

In Sections IV, V and VI will be found information respecting progress of work on new power developments and on transmission system extensions, together with photographic illustrations.

About one-half of the Report is devoted to financial and other statistical data which are presented in two Sections, IX and X.

Section IX presents in summary form the financial statements relating to the operations of the Commission chiefly in the generation, transformation and transmission of electrical energy to the co-operating municipalities. It is introduced by an important explanatory statement which appears on pages 133 to 137, to which special reference should be made.

Section X presents in summary form the financial statements relating to the operations of the municipalities in the localized distribution of electrical energy to consumers. It also contains details of the costs of electrical energy to consumers in the various municipalities and tabular statements of the rates in force which have produced these costs. An explanation of the various tables and statements is given at the commencement of this Section on pages 281 to 283, and a special introduction to Statement "D," which relates to the cost of electrical service in Ontario, together with a diagram, appears on pages 406 to 409.

In its Annual Reports the Commission aims to present a comprehensive statement respecting the activities of the whole undertaking under its administration. Explanatory statements descriptive of the operations of the Commission in various branches of its work are suitably placed throughout the Report in order that the citizens of the Province may be kept fully informed upon the working-out of the Commission's policies.

The Commission receives many letters asking for general information respecting its activities, as well as requests for specific information concerning certain phases of its operations. In most cases these enquiries can satisfactorily be answered by simply directing attention to information presented in the Annual Report of the Commission. Real benefit would result to the "Hydro" undertaking if those who are commenting upon aspects of the Commission's work would first make sure by consulting the Commission's publications that the data upon which their comments are to be based are adequate and pertinent to the subject in hand. By such a course much misrepresentation, as well as inconvenience, would be avoided.

* * *

In closing this summary of the record of Hydro's progress during the past year, and at a time when we are emerging from a period of exceptional economic stress, it is especially fitting to acknowledge the devotion and efficiency that characterize the services rendered by the Commission's staffs. Unquestionably, in both good times and bad times, the municipally-owned Hydro undertaking owes in great measure its outstanding success to the unremitting and competent efforts of the professional and other employees of the Commission and of the municipal utilities, directed as such efforts are towards the constant improvement of the technical operations of the undertaking. The Commission, as trustee charged with providing electrical service for Ontario citizens at minimum costs, has not given its employees remuneration as large as is paid by comparable privately-owned electrical utilities elsewhere, but the Commission has felt that the least it could do in appreciation of the loyalty of its employees was to give them assurance that their security of employment was not subject to arbitrary disturbance. Moreover, continuity of service by a competent staff—a source of strength to any business organization—is, in the case of the Commission's undertaking with its many unique features and its principle of service at cost, especially necessary. With these considerations in mind, the Commission some years ago established a system of contributory pensions, under which the permanent employees deposit with the Commission sums, which the Commission supplements, in order that the employees may have security in old age after a lifetime of faithful service.

The harmonious relations that have always existed between the Commission and its staff have been greatly promoted by the attitude taken by successive Provincial governments toward maintaining the independence of administration of the Commission as a business enterprise operated in trust for the municipalities. The basic principles established by the founders of the undertaking, and incorporated in the Power Commission Act, give the Commission sole jurisdiction over appointments of staff and all other details of operation, and limit government participation in the municipal undertaking to approval of such matters as capital expenditures and power contracts determined by the Commission to be required in the interests of the municipalities.

It is a matter of sincere satisfaction to me, speaking after more than a decade of service as Commissioner, and, latterly, as Chairman, to be able to affirm categorically that at no time in my term of office has any Ontario Government gone beyond the limits of jurisdiction assigned to it by the Power Commission Act as appropriate to its function of banker for the municipalities. There has been no suggestion of interference with appointments of employees or other matters that are in the exclusive jurisdiction of the Commission. Moreover, every capital expenditure and every power commitment on behalf of municipalities has been made at the instance of the Commission having regard only to the interests of the municipalities, and the Government's participation in such matters has been confined to scrutinizing and approving the Commission's proposals, and assisting in inter-governmental negotiations where necessary. The readiness of successive Governments to co-operate has been of notable value to the undertaking; in the case of rural service the Governmental financial contribution is a factor without which the remarkable expansion in service in recent years could not have been achieved. I am constrained to record these observations here because of the fact that statements intimating the contrary have been publicly but unjustifiably made.

The co-operation manifested by the Press in giving space and services to inform the citizens of Ontario on matters relating to the Commission's work is a valuable safeguard to the welfare of the Hydro undertaking, and the Commission desires again to record its special appreciation of the public-spirited support accorded to its efforts.

Confirming the Commission's announcement, made early in the present year, of its expectation of an improvement in the general adverse conditions against which the Hydro undertaking has had to contend for the last three or four years, it is a gratification to be able, at the time of writing, to state that results thus far evident for 1934 are showing a very substantial betterment over the results for corresponding periods of 1933. The large increases in electrical demands and in revenues that are being experienced afford excellent encouragement. The Commission is confident that, with continuation of present trends, the results of operation of the Hydro undertaking in the next two or three years will furnish complete vindication of the wisdom of the actions it has taken with respect to providing power supplies adequate for the requirements in the early future of the municipalities and industries.

Respectfully submitted,

J. R. Cooke,
Chairman.

TORONTO, ONTARIO, March 31st, 1934.

HON. J. R. COOKE, M.L.A.,
Chairman, The Hydro-Electric Power Commission of Ontario,
Toronto, Ontario.

SIR,—I have the honour to transmit herewith the Twenty-sixth Annual Report of The Hydro-Electric Power Commission of Ontario for the fiscal year ended October 31st, 1933.

I have the honour to be,
Sir,
Your obedient servant,
W. W. POPE,
Secretary

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TWENTY-SIXTH ANNUAL REPORT

OF THE

Hydro-Electric Power Commission of Ontario

SECTION I

LEGAL

AT the 1933 Session of the Legislative Assembly of the Province of Ontario, three Acts relating to the work of the Hydro-Electric Power Commission of Ontario were passed. These are reproduced in full in Appendix I to this report. The short titles to the said Acts are as follows:

The Power Commission Act, 1933, Chapter 47.
The Abitibi Canyon Power Development Act, 1933, Chapter 1.
The Manitoulin Rural Power District Act, 1933, Chapter 28.

The agreements between the Hydro-Electric Power Commission of Ontario and the municipalities and corporations mentioned in the list hereunder given were approved by Order-in-Council dated the 9th day of February, 1934.

VILLAGES	
Colborne	Dec. 12, 1932
Mildmay	Nov. 30, 1932

TOWNSHIPS	
Carrick	Nov. 14, 1932
Drummond	Sept. 5, 1933
Oso	Nov. 1, 1932
Sarawak	Feb. 1, 1933
Verulam	Mar. 6, 1933

CORPORATIONS	
American Cyanamid Company	Nov. 19, 1932
Falconbridge Nickel Mines Limited	Feb. 9, 1933
Firestone Tire & Rubber Company of Canada Limited	Nov. 1, 1932
His Majesty The King, in the right of the Province of Ontario (re Mimico Asylum)	Aug. 1, 1932
His Majesty The King, in the right of the Province of Ontario (re Ontario Reformatory)	Aug. 1, 1932
Interlake Tissue Mills Co. Limited	Sept. 11, 1933

Corporations—Continued

The International Nickel Company of Canada Limited and The Huronian Company Limited	Dec. 23, 1932
National Trust Company Limited, Receiver and Manager of Great Lakes Paper Company Limited	June 14, 1933
Northern Empire Mines Company Limited	May 27, 1933
Page-Hersey Tubes Limited	Jan. 30, 1933
Provincial Paper Limited	July 19, 1933
Provincial Paper Limited	Sept. 1, 1933
Strathcona Paper Company Limited	Jan. 1, 1933

Right-of-Way

Rural Power Lines

Wood-pole lines and extensions were constructed in the following rural power districts during the year: Alexandria, Amherstburg, Aylmer, Ayr, Baden, Bala, Barrie, Baysville, Beamsville, Beaumaris, Beaverton, Belleville, Bowmanville, Brant, Brockville, Bruce, Caledonia, Chatham, Chesterville, Clinton, Cobourg, Colborne, Delaware, Drumbo, Dundas, Elmira, Essex, Fenelon Falls, Fort William, Galt, Georgetown, Grantham, Guelph, Hawkestone, Huntsville, Ingersoll, Iroquois, Kemptville, Keswick, Kingston, Kingsville, Lakefield, Lindsay, London, Manitoulin, Markdale, Markham, Martintown, Maxville, Millbrook, Napanee, Nepean, Newcastle, Newmarket, Norwood, Orangeville, Oshawa, Owen Sound, Perth, Peterborough, Petrolia, Port Arthur, Prescott, Preston, Renfrew, St. Marys, St. Thomas, Simcoe, Smiths Falls, Sparrow Lake, Stirling, Strathroy, Streetsville, Tara, Thamesville, Trenton, Wallaceburg, Walsingham, Waterdown, Waterford, Welland, Wellington, Williamsburg, Woodbridge, Woodstock.

The practice, as in the past, has been to construct these lines on public highways or roads where at all possible, but in a few cases, owing to local conditions and the desire to avoid cutting trees, it has been found advisable to place the lines on private property. In such cases the necessary right-of-way has been acquired and compensation made for tree trimming or cutting.

There have also been a number of cases where, owing to road improvement work being carried out by the Department of Public Highways or County Road Commissions, it has been found necessary to change the location of existing pole lines. In all such cases satisfactory arrangements have been made with the department or commission having control of the roads in question.

High and Low Tension Wood-Pole Lines

Construction work has been carried out on the following high- and low-tension wood-pole lines, and the necessary rights-of-way and tree trimming rights have been secured during the year:

Trenton to Belleville.
Colborne to Cobourg.
Auburn to Lakefield.
Oshawa to Toronto.
Norwood to Havelock.
Warkworth to Newcombe.
Newcombe to Welcome.
Welcome to Oshawa.
Port Hope to Newcastle.
Bowmanville to Oshawa
Napanee to Bath.
Delora to Marmora.
Smithville to Stoney Creek.
Burlington to National Fire Proofing Junction.
Kilsyth to Derby Mills.

High and Low Tension Wood-Pole Lines—Continued

Walkerton to Mildmay.
Durham to Mount Forest.
Meaford to Collingwood.
Kilsyth to Owen Sound.
Melancthon to Amaranth.
Fraxa to Orangeville.
Ragged Rapids to Bala.
Erbs Junction to Hanover.
Cornwall to Winchester.
Williamsburg to Winchester.
Lynn to Athens.
Winchester to Cardinal.
Dominionville to Alexandria.
Utterson to Huntsville.
Dominion Junction to Maxville.
Utterson to Windermere.
Muskoka Beach Junction to Muskoka Beach.
Windermere to Rosseau.
Dundas to Caledonia.
London to St. Thomas.
Guelph to Preston.
Kitchener to Stratford.
Kitchener to Waterloo.
Stratford to Sebringville.
Glengarry Junction to Glengarry Distributing Station.
Woodstock to Dufferin.
Woodstock to Beachville.
St. Thomas to Kent.
St. Thomas to Sarnia.
Brant to Brantford.
Brant to Paris.
Paris to Ayr.
Ayr to Drumbo.
Cooksville to York Transformer Station.
Kent to Essex.
Winchester to Williamsburg.
St. Jacobs Distributing Station to Elmira.
Essex to Maidstone.
York Transformer Station to Weston.
York Transformer Station to New Toronto.
Wiltshire Avenue to Weston.
Kitchener Transformer Station to Erbs Junction.
Welland to Port Colborne.
Erbs Junction to Stratford.
Fletcher to Tilbury.
Lythmore to DeCewsville.
Dundas to Binkley's Corners.
Ontario Gypsum Company to Hagersville.
York Mills to Newmarket.
Danforth Junction to West Hill.
Andrews Junction to Pottageville.
Langstaff to Mount Joy.
Dorchester Distributing Station to Dorchester.
Acton to Cheltenham.
Ontario Agricultural College (Guelph) to Elora.
Harbour Hill to Goderich.
Sebringville to Milverton.
Milverton to Listowel.
Listowel to Palmerston.
Harriston Junction to Harriston.
Beachville to Embro.
Norwich to Otterville.
Mount Vernon to Burford.
Paris to Burford.
Brittania Junction to Streetsville.
Tilbury Junction to Fletcher.
Ridgetown to Rondeau.
Prince Albert to Ridgetown.
Como Junction to Dominion Sugar Company.
Prince Albert to Como.
Fletcher to Merlin.
Leamington Junction to Leamington Distributing Station.
Kleinburg Distributing Station to Bolton.
Arnprior to Galetta.
Burnstown to Arnprior.
Kirkfield Junction to Kirkfield Distributing Station.
North Bay to Sturgeon Falls.
Smoky Falls to North Bay.

Substation Site

A site for a substation in connection with the Markham rural power district was purchased during the year at Ringwood.

220,000-Volt Lines

The work of completing settlements for right-of-way, tree rights, damages, etc. has been carried on during the year on the Gatineau high-tension lines, and on the line between Chats Falls and Cumberland Junction, and between Cumberland Junction and the Inter-provincial Boundary.

In a few cases where settlements could not be arrived at by negotiation, the owners have called upon the official valuator to file his award. These awards have been accepted by the owners in all cases, no appeals having been entered.

General

During the year the operation of the Brantford and Hamilton Electric Railway was discontinued, and as the right-of-way was no longer required, efforts were made to dispose of it to the owners of the adjoining lands. In a great majority of cases satisfactory arrangements have been made with such owners to take over this right-of-way.

As the Commission was not successful in acquiring by negotiation the lands owned by the Kingdon Mining, Smelting & Manufacturing Company in the Township of Fitzroy, the matter was referred to the Ontario Municipal Board for arbitration. These arbitration proceedings were quite prolonged, involving sittings of the Board for forty-three days. The Board's award was finally filed, and has been accepted by both parties, and the matter has been closed.

In a number of cases surplus lands not required by the Commission in connection with its works have been disposed of.

SECTION II

OPERATION OF THE SYSTEMS

The past year's operation of the systems has been satisfactory. Few interruptions to service occurred, and failures of equipment were relatively few and not serious in extent. On June 7, 1933, a storm of extreme severity, accompanied by high winds, lightning and rain, caused damage in many districts between London, Toronto and Niagara Falls. Twelve steel towers collapsed during the storm, and damage was done to various low-tension lines, and to some of the station equipment connected to them, the total cost of repairs approximating $27,000. With this exception there were no failures of lines or apparatus which resulted in extensive disturbances to service. In another part of this section details will be found regarding such failures of equipment as occurred in the ordinary course of operation, together with an outline of the repairs made and the maintenance work carried out.

The Eastern Ontario and Georgian Bay systems suffered from a lack of rainfall which reduced the stream flow and the capacity of the generating plants. On the Georgian Bay system the reduction in generating capacity was offset by an increased transfer of power from the Niagara system. On the Eastern Ontario system the low stream flow during certain periods reduced the capacity of all the generating stations on the Trent river to less than 40 per cent of their normal maximum capacity, and a severe power shortage would have been experienced if a supplementary reserve supply of power had not been available from the Gatineau Power Co. The Nipissing district also experienced a period of low precipitation, but the storage works constructed by the Commission made it possible for the stream flow to be maintained in volume adequate to enable the generating plants to supply the demand for power.

It has been customary in this section of the Report to give a summary of load conditions. A load graph is given in connection with each system, showing the load month by month throughout the year, and extending back over a period of time depending on the age of the system and the records available. These graphs may be consulted for details regarding the load on each system, the following remarks dealing mainly with the total load of the Commission, that is, the combined load of the systems.

In an enterprise as large as that of the Commission increases are apt to occur at one point while decreases occur at another point. Under such conditions broad generalizations cannot be expected to hold true in all cases, and to avoid any possibility of misunderstanding or appearance of inaccuracy, attention is called to the importance of treating the statements given herein as applying only to the combined total of the systems' load, or to that section of the load specifically referred to in the text.

In the fiscal year ending October 31, 1933, the total load of the Commission, for all systems combined, amounted to 4,612,000,000 kw-hrs., exceeding that of 1932 by 171,000,000 kw-hrs., as shown in the table of power generated and purchased given on the next page.

Of more importance than this increase in the average load for the year, is the upward trend of load which became apparent during the latter half of the year. In last year's Annual Report reference was made to the reduction in load which had occurred during the depression. In that Report it was pointed out how the downward trend appeared in 1930 and continued throughout 1931, but in 1932 the rate of decrease was checked, the reduction for 1932 being only 1.2 per cent as against a decline of 15 per cent during 1931. During the months of December, 1932, and January, 1933, there was a marked slump in the total load, to which a downward trend in the primary load and a loss of secondary load both contributed. In February a substantial block of secondary power was added, which very largely compensated for the decreases in both primary and secondary power during the previous months. In July a very substantial increase was made in both primary and secondary load, and further increases occurred during the succeeding months.

During the last four months of the fiscal year 1933, the total load exceeded that of the corresponding months of the previous year by about 245,000,000 kilowatt-hours. In consequence, the decreases during the earlier part of the year were more than off-set by the increases during the latter part of the year, and the complete year shows a net increase of 171,000,000 kilowatt-hours.

In October, 1933, the total peak load of the Commission reached the high figure of 1,366,000 horsepower, an increase of 23 per cent over the corresponding month of the previous year. This is the highest load ever carried by the Commission, in any month, either before or since the beginning of the depression.

The above figures should not be used as an indication of business conditions in the Province, or for the purpose of forecasting load during the coming year, without proper allowance for the quantity of secondary power included therein.

"Secondary" power is a term applied to power which is sold subject to unlimited interruptions, to reduction or to complete withdrawal, at any time it is required for use by municipalities, or for the maintenance of the supply of firm power. During 1933, the Commission was able to effect the sale of large blocks of power on this basis, mainly for the generation of steam by electricity. Under these arrangements energy from Canadian water powers is utilized and replaces large quantities of imported coal. In connection with such use, it has not been necessary for the Commission to supply any additional generating equipment, and the power is still effective as a system reserve for "firm power" customers, and is available to meet their demands at any time.

Recent developments in the sale of secondary power have made it necessary this year to present in a somewhat different manner the figures relating to certain power which has been sold for the purpose of steam generation. Prior to 1930 the rapid growth of the Commission's loads had prevented the provision of a suitable amount of reserve capacity, and consequently the amount of secondary or off-peak power sold was relatively small. From October, 1930, to October, 1932, inclusive, a block of power was "resold" to the Gatineau Power Company to be used for steam generation. This transaction was reflected, in the statistics presented, in a reduction of the power purchased from the Gatineau Power Company, because it was the equivalent of a temporary and revocable reduction in capacity, and as at that time no secondary power was distributed in Ontario, it did not seem appropriate to include the contract power thus temporarily relinquished, as an addition to the system load figures. During 1933, in which year the sale of substantial quantities of secondary power began in Ontario, the resale to the Gatineau Power Company also recommenced. Since it is necessary to include Ontario's new load of secondary power in the figures for total load, and since the resale to the Gatineau Power Company represents secondary power which is similar both in the characteristics of being subject to immediate and unlimited interruptions and in the use to which it is put, it appears to be appropriate and necessary now to include this "resale" power in the figures for total load. In making comparisons, therefore, of certain loads for 1933 and for 1932 it has been necessary to show them both on the same basis and, in some cases, this has required revision in the 1932 figures to which attention has, herein, been directed.

In general it is only industries consuming relatively large quantities of power which can utilize secondary power. During the past year the Commission has been in a position to offer sufficiently large blocks of power to make the use of this class of power attractive to certain industries, and since February, 1933, the secondary load in Ontario, which was previously of negligible proportions, has been built up to an extent which materially affects the statistics for the total load. While it is hoped that this class of load will always be continued as a source of revenue from reserve generating capacity, it is subject to wide and irregular fluctuations according to load and business conditions, and should not be included in any study of the firm load trend, nor should it be included in any statistics of electric power consumption which are intended for use as an index of business conditions generally. The firm load is of a different nature and is generally regarded as an excellent business index, due to the fact that such power is used by so many of the factories, stores and residences throughout the districts served. It is not subject to the irregular fluctuations of secondary power.

For the above reasons it is of interest to compare the Commission's firm load in Ontario during 1933 with that of the previous year, omitting all secondary and export power.

In September and October, 1932, the firm load showed the usual seasonal increases. This continued during the month of November, 1932 (which forms the first month of the past fiscal year 1932-33). However, in December, 1932, the firm load showed a definite downward trend which continued until May, 1933. This downward trend was more marked than the usual seasonal decline of load, which normally begins in February and continues until some time in August.

In May, 1933, the downward trend terminated, and an upward movement commenced, which was of an even more marked character than the downward trend of the previous months. This upward trend continued consistently from

TOTAL POWER GENERATED AND

HYDRO-ELECTRIC GENERATING PLANTS

Generating plants	Maximum normal plant capacity Oct. 31, 1933, horsepower	Peak load during fiscal year 1932–1933 horsepower	Total output during fiscal year 1932–1933 kilowatt-hours
Niagara system			
Queenston-Chippawa—Niagara river	500,000	461,126	1,834,328,000
"Ontario Power"—Niagara river	180,000	119,303	145,624,000
"Toronto Power"—Niagara river	150,000	70,375	64,521,000
Chats Falls—Ottawa River (Commission's half)	96,000	94,504	124,024,550
Dominion Power and Trans. system*			
Decew Falls—Welland Canal	50,000	42,091	97,082,300
Steam Plant—Hamilton	24,000	......	24,800
Georgian Bay system			
South Falls—South Muskoka river	5,600	6,011	20,495,760
Hanna Chute—South Muskoka river	1,600	1,609	6,676,800
Trethewey Falls—South Muskoka river	2,300	2,145	8,925,600
Bala No. 1 and 2—Muskoka river	600	583	2,224,344
Big Chute—Severn river	5,800	5,791	16,396,920
Wasdells Falls—Severn river	1,200	1,227	3,403,240
Eugenia Falls—Beaver river	7,800	7,614	17,794,960
Hanover—Saugeen river	400	382	104,524
Walkerton—Saugeen river	500	503	1,307,100
Southampton—Saugeen river	300	0	0
Eastern Ontario system			
Sidney-Dam No. 2—Trent river	4,500	3,619	7,826,700
Frankford-Dam No. 5—Trent river	3,500	1,810	225,500
Meyersburg-Dam No. 8—Trent river	7,000	7,507	11,160,530
Hague's Reach-Dam No. 9—Trent river	4,500	4,625	7,245,700
Ranney Falls-Dam No. 10—Trent river	10,500	10,456	13,937,820
Seymour-Dam No. 11—Trent river	4,200	3,150	7,981,130
Heely Falls-Dam No. 14—Trent river	15,300	15,282	20,118,400
Auburn-Dam No. 18—Otonabee river	2,400	1,984	6,467,050
Fenelon Falls-Dam No. 30-Sturgeon river	1,000	938	1,410,300
High Falls—Mississippi river	3,000	3,117	4,263,720
Carleton Place—Mississippi river	400	375	11,848
Calabogie—Madawaska river	5,400	1,588	4,433,951
Galetta—Mississippi river	1,100	402	12,660
Thunder Bay system			
Cameron Falls—Nipigon river	73,500	48,700	115,494,000
Alexander—Nipigon river	50,000	48,200	173,030,400
Northern Ontario properties			
Nipissing district			
Nipissing—South river	2,100	2,366	4,728,040
Bingham Chute—South river	1,200	1,307	3,040,800
Elliott Chute—South river	1,700	1,910	3,989,000
Sudbury district			
Coniston—Wanapitei river	5,900	5,563	16,322,328
McVittie—Wanapitei river	2,900	2,882	12,076,344
Stinson—Wanapitei river	7,500	6,233	17,335,704
Patricia district			
Ear Falls—English river	4,000	2,627	10,679,000
Abitibi district			
Abitibi Canyon—Abitibi river	55,000	45,389	30,950,000
Total generated	1,292,700	†	2,815,674,823

*In process of incorporation with the Niagara system.

†Because the peak loads on the various generating plants and purchased power sources usually occur at different times, the sum of the individual peak loads would not represent the sum of the peak loads on the systems. These in the case of each system must relate to the maximum load occurring at any one time. Consequently, the column headed "Peak Load" is not totalled.

PURCHASED—ALL SYSTEMS

POWER PURCHASED

Power source	Contract amount horsepower Oct. 31, 1933	Total purchased kilowatt-hours
Canadian Niagara Power Co.—25 cycle	20,000	95,132,300
Gatineau Power Co.—25 cycle	260,000	1,074,498,785‡
Ottawa Valley Power Co.	96,000	124,024,550
Beauharnois Light, Heat and Power Co.	75,000	157,340,000
McLaren Quebec Power Co.	20,000	28,835,800
Canadian Niagara Power Co.—For D.P. & T. 66-cycle system	10,000	57,855,000
Campbellford Water & Light Commission§	......	....
Cedars Rapids Power Co.	7,500	29,779,500
M. F. Beach Estate	500	831,600
Rideau Power Co.	487	2,822,800
Ottawa & Hull Power & Mfg. Co.	20,000	63,660,600
Gatineau Power Co.—60 cycle	36,000	128,241,500
Orillia Water, Light & Power Commission§	......	—734,530
Manitoulin Pulp Co.	150	99,200
Ontario Power Service Corporation	......	34,054,060
Total purchased	545,637	1,796,441,165‡

Power purchased, contract amount, 1933	545,637	horsepower
Maximum normal plant capacity, 1933	1,292,700	"
Total available capacity generated and purchased, 1933	1,838,337	"
Total available capacity generated and purchased, 1932	1,760,052	"
Difference (increase)	78,285	"
Total energy purchased, 1933	1,796,441,165	kilowatt-hours‡
Total energy generated, 1933	2,815,674,823	kilowatt hours
Total energy generated and purchased, 1933	4,612,115,988	kilowatt hours‡
Total energy generated and purchased, 1932	4,440,447,470	kilowatt hours‡
Difference (increase)	171,668,518	kilowatt hours

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‡Includes secondary power resold to the Gatineau Power Company.

§Reciprocal arrangement for surplus power.

CAUTION: The figures for "Maximum Normal Plant Capacity" reflect the capacity of the various plants under the most favourable operating conditions which can reasonably be considered as normal, taking into consideration turbine capacity as well as generator capacity and also the net operating head and available water supply.

Owing, among other things, to changes in generating equipment due to wear and tear or the replacement of parts, also to changes in the limitations governing water levels and effective net heads, the maximum normal plant capacity is not a fixed quantity but is one which must be revised from time to time. It will be noted that several revisions have been made in the ratings shown this year, the capacity of some plants being rated lower and others higher.

It will be noted that the capacity of the Queenston plant appeared in last year's Report as 522,000 horsepower and is herein reduced to 500,000 horsepower. The reduction in peak capacity is a consequence of operating the plant at a high daily load factor in order to obtain a maximum of energy from the water allowable under the Boundary Waters Treaty. At lower daily load factors the maximum peak capacity is substantially higher.

It is particularly important to bear in mind that the column headed "Maximum Normal Plant Capacity" cannot be taken as an indication of the dependable capacity of the various plants; in some cases it is, but in many cases it is not. As an illustration it may be noted that while under favourable circumstances the plants of the Eastern Ontario System, taken collectively, might supply a peak demand equal to or even in excess of the sum of their maximum normal ratings, the maximum output which could be obtained from them during part of the month of October, 1933, was only about 40 per cent of this rating.

Chief among the factors which govern the maximum dependable capacity of a hydraulic power plant and which are not reflected in column headed "Maximum Normal Plant Capacity" are abnormal variations in water supply and operating limitations encountered when plants are so situated on a given stream as to be affected by one another.

month to month. By June practically all lost ground had been regained, and in October the firm load was higher than in the corresponding months of 1932 or 1931, although still slightly below 1930 which was the record year for all time. This steady upward trend of the firm load in Ontario during the latter half of 1933 was one of the most encouraging features of the load situation. During the months of November and December the normal seasonal increases in firm load occurred; thus the gains made during the latter part of the fiscal year were retained.

While the above comments refer to the Commission's load on all systems combined, somewhat similar remarks might be made for each system, although there are special variations. In the following sub-sections each system is reported individually, and load graphs are given showing the load month by month.

The graphs for the Niagara, Eastern Ontario, and Thunder Bay systems, and for the Sudbury, Abitibi and Patricia districts, all show the encouraging upward trend during the latter part of the year. The Georgian Bay system and the Nipissing district do not share in this gain, but the load continued around the same levels as during the previous year. It will be noted that these latter systems did not suffer the marked decline of other systems in the earlier years of the depression. While not yet showing any upward trend, they were later in showing any downward trend, and have little ground to regain.

Forestry

The Forestry division's diagnosis of trees on Ontario highways along which the Commission's power and telephone lines extend continues to reveal hitherto unknown hazards to life, property and service. The reproduction of two photographs given herein illustrates only one of the numerous cases which are being found on road allowances and on private property adjacent to the Commission's lines and to the travelled highways. The Department of Highways, county, township and municipal authorities, as well as all property owners, are advised of the condition of such trees as these and arrangements made to remove the menace.

Forestry squads have been continuously employed on the Niagara system throughout the year, operations being carried on in practically all districts, over 1,114 miles of transmission and high-tension telephone lines. Georgian Bay system operations were carried on over a period of six months, and embraced 128 miles of transmission lines in Eugenia, Severn and Wasdells districts. Eastern Ontario system operations involved 31 miles of transmission line in the St. Lawrence and Central Ontario districts. Some work was done to provide adequate clearance for reconstruction required by the Transmission and Distribution sections of the Engineering department.

The work involved in all forestry line-clearance operations, over approximately 1,300 miles of Commission-owned power and telephone lines on all systems, cost $87,385, including labour, tree wound dressing, cabling and other materials as well as travelling expenses and similar Forestry division overhead.

A MENACE TO LIFE, PROPERTY AND SERVICE

White pine tree standing alongside the Commission's transmission line on the King's Highway No. 11

LEFT: View of base cavity through which fungus entered, destroying the sap and heartwood far up into the trunk

RIGHT: View of highway, low-tension line and tree

OPERATING DEPARTMENT—FORESTRY DIVISION

The work and costs may be classified as below:

	Quantity	Total cost	Average cost
Underbrushing	2,239 pole spans (or 63 miles)	$3,732	$1.66
Tree removals	12,878 trees	29,104	2.26
Line clearance, shaping and corrective pruning	36,046 trees	54,549	1.51
Total	48,924 trees	$87,385	....

It will be noted that this year the costs of underbrushing and tree removal have been segregated, whereas in previous years these items were included in the total costs and the average cost per tree. The overall cost per tree this year shows a slight reduction.

The following is a brief explanation of the work involved in line clearance, shaping and corrective pruning:

(a) The cutting of twigs and branches back to laterals, and the removal of all dead wood, to clear lines;

(b) Corrective trimming by removal of all unsightly diseased stubs, to improve the health and appearance of the tree;

(c) Cabling of structurally weak or splitting crotched trees, and of heavy overhanging limbs that could not be removed without impairing the symmetry of the tree, for the protection of the Commission's lines and of the travelling public.

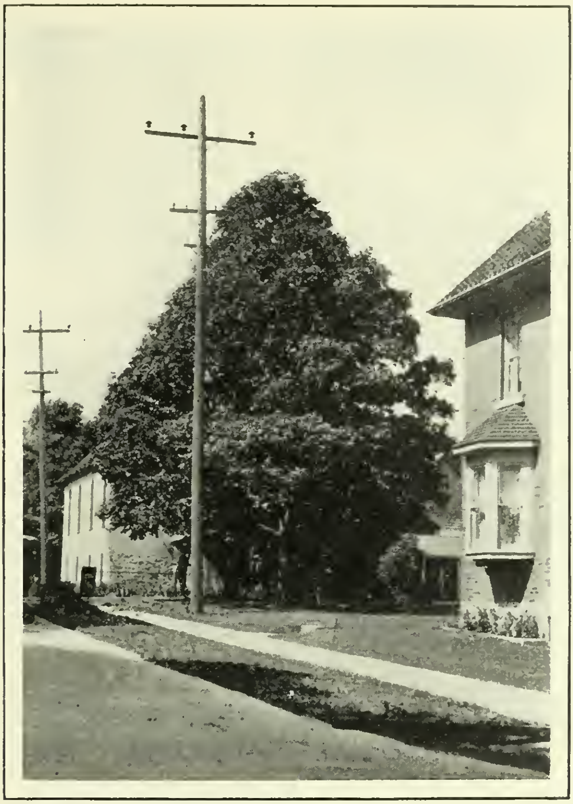
(d) Shaping tree by trimming branches beyond area required for line clearance, to preserve symmetry of the tree.

It is estimated that the extensive corrective trimming, shaping, cabling, and removal of dead wood required for the first operation on each line costs at least fifty per cent more than pruning for line clearance only. On this basis the cost of pruning for line clearance alone would amount to about $1.00 per tree.

Before undertaking pruning operations or tree removals on highways, forestry foremen interview both the adjacent property owners and the municipal authorities. While this procedure is necessary to secure co-operation and harmony, it will be appreciated that it adds to the cost of the operations, and such cost is included in the above figures.

The Forestry division has given the Operating department district patrolmen some practical training in the scientific methods of pruning trees for line clearance so that they might become qualified to do this work when required. During the past year twenty different patrolmen have reported for training while forestry operations were in progress in their respective districts. Six completed training and were approved. The others were either called for important line work or forestry operations were suspended in the district before training was completed. They will continue training when forestry operations are re-opened in the district.

During the past year, four municipal Hydro systems have availed themselves of the opportunity to employ the Commission's Forestry Division service. They report that their commissions and the local property owners are highly pleased with the quality of work done and with the efficiency of the foresters in carrying on this hazardous class of work without requiring or causing service interruptions. This work involved only line clearance pruning, and the removal of all dead wood, to clear low-voltage lines. No corrective pruning, extensive shaping, or cabling, and only a small percentage of tree removals were required. The trees diagnosed as diseased and dangerous were to be removed by the unemployed. This type of pruning for local distribution lines is vastly different from the clearance required on 10,000-volt to 60,000-volt power transmission lines. The four municipal operations combined involved pruning 812 trees at a total cost of $722, an average cost of 89 cents per tree.



OPERATING DEPARTMENT—FORESTRY DIVISION

CROWN AND SIDE PRUNING

Tree pruned for line clearance and appearance. Only crown and side pruning was required for line clearance, but to avoid destroying the symmetry of this tree, the lower branches were trimmed on the line and opposite side of tree, increasing the cost but preserving appearance

A complete survey of all trees within the corporate limits has been made for several other municipal Hydro systems who later contemplate the use of this service. One of these surveys revealed the fact that of a total of 1,303 trees inspected, 101 were diseased and dangerous to life and property. Through co-operation with the municipal authorities, these latter trees are being removed by the unemployed as a relief measure.

In co-operation with the Ontario Forestry Branch, the Queenston-Chippawa Canal reforestation project was undertaken two years ago to establish a tree-lined area on both banks of the canal. This was done primarily to eliminate drifting snow and ice, as well as other debris, getting in to the canal, and to protect the steep banks from erosion. A rather high mortality among the trees resulted from the drouth of the last two seasons. It was, therefore, necessary to replace approximately 20,000 trees. The areas immediately surrounding the seven bridges are being developed by informal group planting. Approximately 7,500 conifers of the following species were planted this year:—white cedar, Austrian pine, larch, Scotch pine, white spruce, Jack and Muhgo pine. The total cost of this year's reforestation and informal development of bridge approaches amounted to $727.

Many letters have been received commending the Commission upon the success of its efforts to protect trees along the highways, and to preserve their beauty as well as the scenic effect. This is especially gratifying in view of the difficulty of preserving the beauty of the trees without sacrificing the clearance necessary for satisfactory transmission line operation.

An expression of gratitude is due the Department of Highways, county, township and municipal officials, as well as various property owners, for their kind co-operation which has made it possible for this work to be carried on harmoniously in all parts of the Province.

Radio Communication

The commission's short-wave stations at Toronto, Cameron falls and Ear falls have continued in service all year with no important changes in equipment. There has not been as much interference from atmospheric and other causes as was experienced in 1932, and communication between Toronto and the stations mentioned has been maintained on a regular schedule.

NIAGARA SYSTEM

Generating Stations

Queenston Station

Systematic inspection and maintenance of all apparatus and parts were carried out in accordance with the regular schedules, and in this connection generator and turbine units were removed from service as noted below.

Number 1 generator and turbine unit were out of service from June 5 to June 23. During this period the governor was dismantled, worn parts were replaced and reassembled, the runner and seal ring were inspected, and the lignum vitae bearing was reblocked. The generator stator was cleaned and varnished and field coils were tested. The Johnson valve was cleaned and the valve seats were machined.

Number 2 unit was out of service from June 26 to July 13. During this period the governor was dismantled, worn parts were replaced and reassembled. The lignum vitae bearing was reblocked and the runner, draft tubes and seal rings were inspected. The generator stator was cleaned and varnished, and the Johnson valve controls were cleaned and repaired

Number 3 unit was out of service from September 1 to September 14, during which period repairs were made to the governor controls, the turbine bearing was reblocked, and the racks, draft tube, runner and seal rings were inspected. The generator windings were cleaned, tested and varnished.

Number 4 unit was out of service from September 18 to October 3. During this period the Johnson valve was overhauled, the lignum vitae bearing was reblocked and the draft tube, runner and seals were inspected. The governor was dismantled and reassembled, worn parts being replaced.

Number 5 unit was out of service from May 15 to June 3. During this period the governor was dismantled and reassembled, worn parts being replaced, the lignum vitae bearing was reblocked, the Johnson valve controls were cleaned and repaired, and the draft tube was drained and inspected. The generator stator and field coils were inspected and cleaned.

Number 6 unit was out of service from October 10 to October 24. During this period the Johnson valve was overhauled and the draft tube, runner and seals were inspected. Minor repairs were made to the exciter armature.

Number 7 unit was out of service from July 14 to July 29, the entire unit being dismantled. During this period a large amount of welding was carried out on the runner and seal ring. It was found necessary to replace the turbine bronze sleeve section on the shaft. The governor was dismantled and reassembled, worn parts being replaced. The lignum vitae bearing was reblocked. The generator stator and field windings were cleaned and varnished.

During the above outages of the different units, the low-tension and high-tension breakers were inspected and the oil changed. The transformers were opened for inspection of all internal connections.

During the year the governors on units numbers 6, 7 and 9 were equipped with load limiting devices, and this work is being continued until all governors are so equipped.

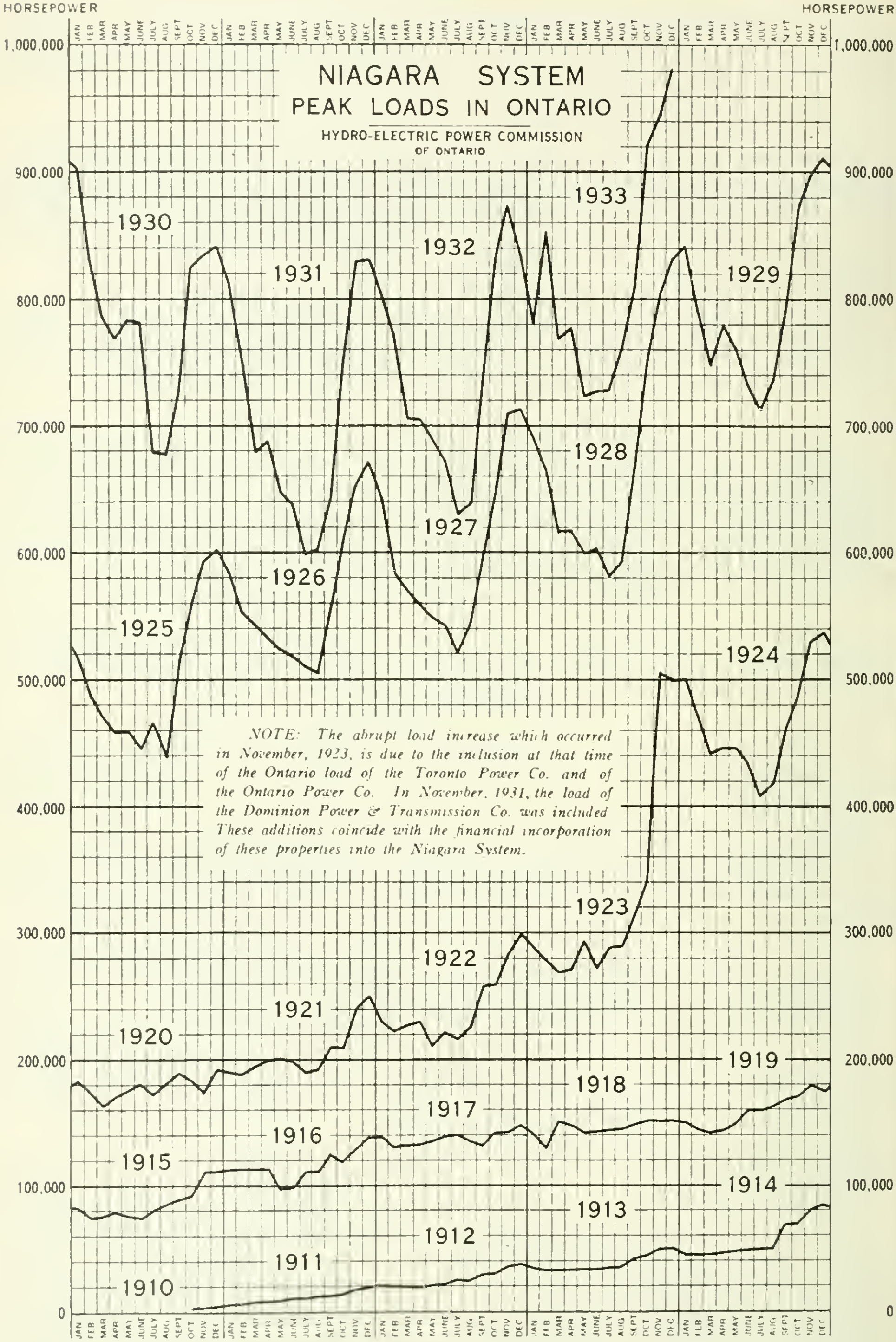
Experiments have been made with the use of stainless steel welding rod for the final surface coat on turbine runners during the past few years, and it has been found that this metal has several times the life of that previously used.

A new 32-volt control battery was purchased and installed during the latter part of the year, replacing two units previously in service.

Several hundred trees and shrubs were planted on the gorge banks and grounds adjacent to the power house and screen house with a view to beautifying the grounds and protecting the gorge banks.

Ontario Power Station

The service rendered by the Ontario Power generating station was extremely good during the year, there being no failures of major equipment and no difficulties encountered in its operation. All equipment was regularly inspected and repairs and adjustments were made where necessary to maintain the plant in efficient condition. All equipment being in good condition, no extensive maintenance work was required during the year.



NIAGARA SYSTEM
PEAK LOADS IN ONTARIO

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

NOTE: The abrupt load increase which occurred in November, 1923, is due to the inclusion at that time of the Ontario load of the Toronto Power Co. and of the Ontario Power Co. In November, 1931, the load of the Dominion Power & Transmission Co. was included. These additions coincide with the financial incorporation of these properties into the Niagara System.

HORSEPOWER
HORSEPOWER
1,000,000
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC
1930
1931
1932
1933
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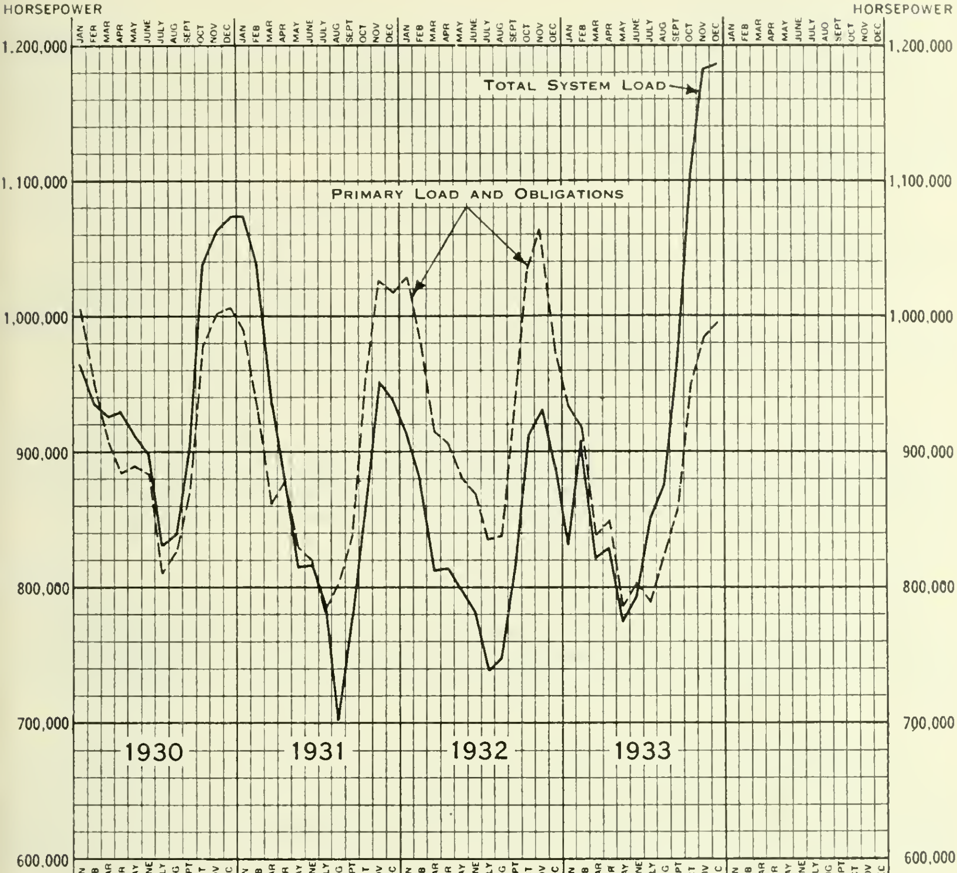


SUPPLEMENTARY DIAGRAM—NIAGARA SYSTEM PEAK LOADS

Notes

TOTAL SYSTEM LOAD includes power exported to Quebec and the United States as well as the Ontario load shown on the opposite page

PRIMARY LOAD AND OBLIGATIONS as the term implies, includes both the primary load and the contractual obligations for primary power to Ontario Companies supplied directly by the Commission in excess of power actually taken by them

The scaling of the cliff, and the construction of a dry wall to protect the buildings from falling rock, which was reported under way in the last Annual Report, was completed during the latter part of 1932. Repairs were made to the outer concrete walls of the power house.

All machine shop equipment is being moved to a permanent location in the north end of the main generating station, in a space formerly occupied by a 16-foot boring mill which has been moved to Queenston. The relocation of this equipment will permit the removal of temporary buildings at the north end of the power house which were originally erected for construction purposes.

Toronto Power Station

No difficulties were encountered in the operation of this plant during the year, although two generators failed in service during a lightning storm on July 19, and required minor repairs. Systematic inspection and maintenance of all apparatus was carried out in accordance with the regular schedules; the larger maintenance items are as noted below.

On number 1 unit the upper turbine rods were packed and the lower turbine bearing was changed.

The generator on number 3 unit failed in service on July 19 during a lightning storm and it was found necessary to replace three coils in the armature. The stator was given a thorough cleaning, and all coils were varnished.

On number 4 unit the field was removed and the stator coils cleaned and varnished. During this period the oil and water service pipes to both generator bearings were re-arranged. The governor was dismantled, worn parts were replaced and the governor was reassembled. The turbine and guide bearings were also refitted.

On number 5 unit the upper turbine bearing was changed and the lower turbine bearing was inspected. The guide bearings on decks number 3, 4 and 5 were inspected and the oil grooves recut. Steel gear guards were installed under the governor, and the wheel-gates were adjusted to provide for tighter closing.

On number 6 unit the field was removed and the generator coils were cleaned and varnished. The guide bearings on decks number 2. 3 and 4 were inspected and oil grooves recut, and the guide bearing on deck number 5 was replaced. The top and bottom generator bearings were changed, and steel gear guards were placed under the governor.

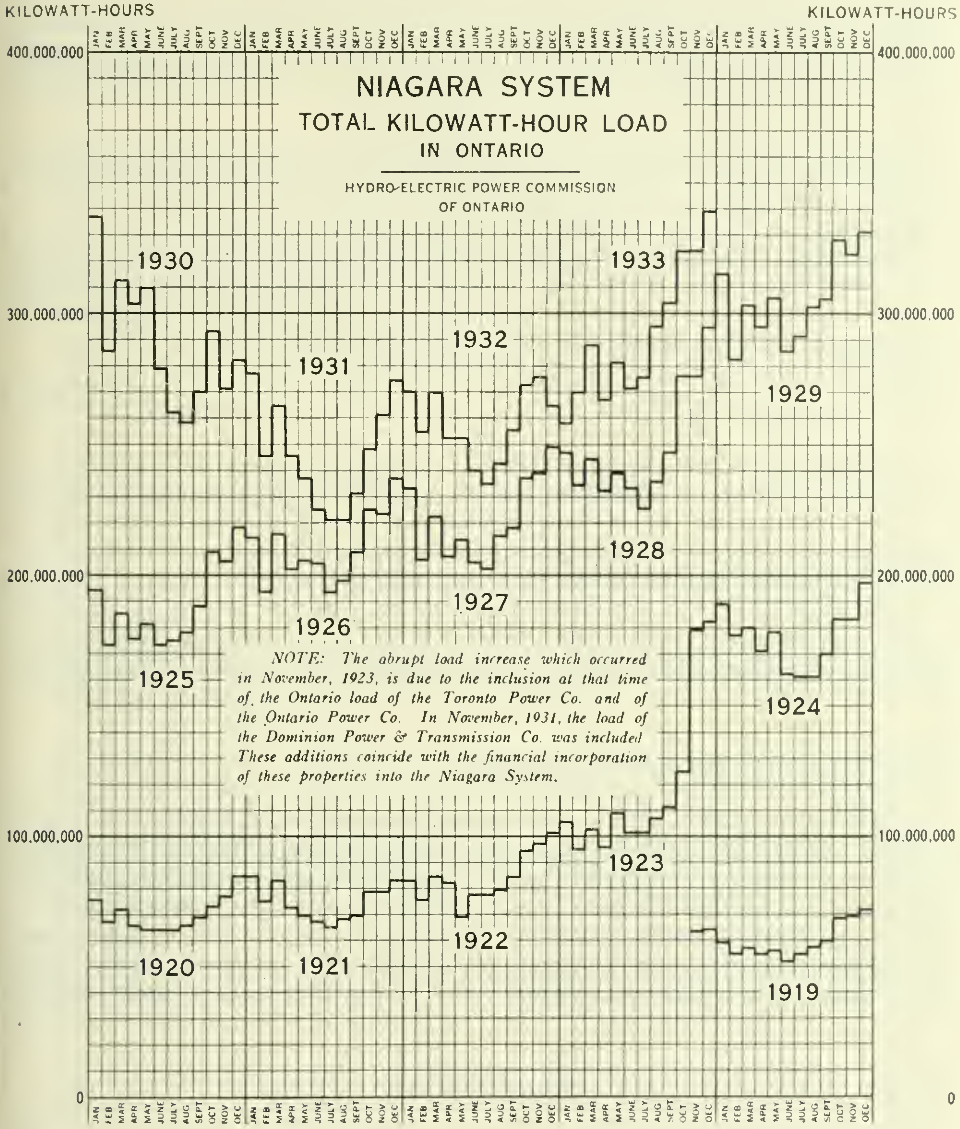
The armature of number 7 unit failed in service on July 19 during a lightning storm, and it was necessary to remove the field and replace five coils in the armature. The stator was thoroughly cleaned and the coils revarnished. The top generator bearing and the guide bearings on deck number 5 were changed.

During the severe wind and lightning storm on June 7 a 6,000 kv-a. transformer at the Toronto Power transformer station failed in service. This unit has not yet been repaired.

The usual painting and general maintenance work was carried out in accordance with the regular schedules.

Chats Falls Station—Ottawa River

The year 1932–3 was the first complete year's operation with eight units in service. The performance of all equipment was highly satisfactory, requiring no major maintenance or repair work. All inspection and routine maintenance work has been carried out in accordance with a regular schedule. A complete check of all relay and metering equipment was made.


NIAGARA SYSTEM
TOTAL KILOWATT-HOUR LOAD
IN ONTARIO

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

NOTE: The abrupt load increase which occurred in November, 1923, is due to the inclusion at that time of the Ontario load of the Toronto Power Co. and of the Ontario Power Co. In November, 1931, the load of the Dominion Power & Transmission Co. was included. These additions coincide with the financial incorporation of these properties into the Niagara System.

KILOWATT-HOURS
KILOWATT-HOURS
400,000,000
300,000,000
200,000,000
100,000,000
0
JAN
FEB
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APR
MAY
JUNE
JULY
AUG
SEPT
OCT
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1919

The Ottawa river flow reached a maximum of 150,000 c.f.s. during the spring flood and receded to a minimum of 12,000 c.f.s. in October, the extremely low flow resulting from the small precipitation during the summer. Throughout this wide variation of flow no difficulty was experienced in maintaining the water levels within the prescribed limits.

The responsibility for maintaining system frequency and time service was transferred to this station from the Niagara Falls plants during the year. For this purpose a type "B" Telechron clock was installed in the control room, which, in conjunction with a graphic time-error meter installed at the load supervisor's office at Niagara Falls, enables the operators to maintain time service to the districts supplied from Toronto, York, Cooksville and Hamilton transformer stations within the limits of plus or minus five seconds from standard time. Similar time service is given to other parts of the Niagara high-tension system through frequency control at Niagara Falls.

For the purpose of placing cars, moving heavy material and handling tail-race stop-logs, a large Browning crane was purchased.

During the early part of the past fiscal year the remaining construction details were completed. A complete inventory has been made of all construction material, stores, spare parts, etc., remaining on hand after the completion of construction, and this material is now being offered for sale.

Decew Falls Generating Station

This plant was in continuous operation throughout the year; no difficulties were encountered in its operation, and no failures of equipment occurred. No extensive maintenance work was carried out during the year, but regular inspection and repairs were made in accordance with the established schedule, and the plant was kept in satisfactory operating condition.

The water-wheel governors of number 5 and number 7 units were rebuilt and a new main control valve was built for number 1 water-wheel. The exterior trim of the generating station building and transformer house was painted.

Dominion Power Steam Station—Hamilton

The 60-cycle steam plant at Hamilton was operated during the year as a standby for electric service and for the generation of steam for commercial purposes. While it was not necessary to operate the steam turbo-generator for power purposes during the year, this unit was operated from time to time as a synchronous condenser for voltage regulation on the system. Experiments were carried out in the burning of coke breeze, along with the regular slack coal. These were successful and fuel costs at this station have been reduced.

Transmission

The 220,000-volt lines between Toronto and the Ottawa river (Chats Falls), and from this point to the Ontario–Quebec boundary line connecting with the Beauharnois development, gave very satisfactory service and no difficulties were encountered in the operation or maintenance of these lines.

There were two total interruptions of all three circuits, caused by lightning, resulting in disturbances to service in the Toronto area. There were fourteen single-circuit outages on this system caused by lightning; these latter outages, however, did not affect service. None of the above disturbances caused damage to lines or equipment, and the immediate return of the equipment to service was possible.

On July 1, the 220,000-volt circuit from the Masson station of the MacLaren-Quebec Power Company was connected to the Beauharnois-Chats Falls line and placed in service.

The towers on the three circuits between Leaside station and Hastings interswitching station were inspected, all bolts tightened and palnuts installed, in order to prevent the loosening of the tower bolts by vibration. Along with this work the conductors on the original circuit were inspected. Underbrushing was carried out on approximately four thousand acres from a point north of Oshawa to the Ottawa river.

There were no complete interruptions on the 110,000-volt transmission system during the year. There were, however, interruptions on the three individual groups of this system.

On March 19 a sleet storm of moderate severity caused interruptions to all customers west of Dundas.

On June 7 a storm of extreme severity, accompanied by high winds, lightning and rain, caused extensive damage in many districts between London, Toronto and Niagara Falls. At this time six towers collapsed on the circuits between Dundas and Toronto, and six towers on the right-of-way near Stoney Creek. Damage also occurred to low-tension lines in the Dundas, London, St. Marys, and Niagara Falls districts.

In addition to the usual patrol, minor maintenance and repair work after storms, the following maintenance work was carried out on the 110,000-volt lines. Some 705 McGuigan type towers, from a point between Dundas and Guelph, to between London and St. Marys, were cleaned and painted, and the majority of the towers on the Toronto circuits from Niagara Falls were inspected and the bolts were tightened. Palnuts were installed on the towers between Allenburg junction and St. Thomas, and extensions erected on transposition towers to improve loop clearance. The Archibolt-Brady 60,000-volt towers between Niagara station and the river crossing were cleaned and painted, also several 46,000-volt towers, including the towers at the canal crossing in Welland.

Extensive underbrushing was done on the older tower lines between Niagara Falls and Toronto, and westerly as far as St. Thomas. The 110,000-volt circuits were re-arranged at our Strachan and York stations and at Saltfleet and Halton junctions. High-tension insulators were meggered between Kitchener and London and on other circuits in the vicinity of London. A short section of line was placed in service between the Holland Road junction and the Ontario Paper Company (Steam) transformer station.

A new transformer station of 67,500-kv-a. capacity, along with three 30,000-kw. steam generators, was placed in service at the Ontario Paper Company on January 29.

The Commission's private telephone service was extended during the year to the following stations on the Dominion Power division: DeCew Falls, Hamilton steam plant, Beamsville, Grimsby and Ancaster distributing stations, Bartonville switching station, Lincoln Electric Company, St. Catharines, and the Hamilton field office, thus making telephone communication available between these points and all other points on the Commission's telephone system.

On the Dominion Power lines there was no total interruption to service during the year, or any reduction in load due to failure of generation. On the 44,000-volt lines there were two interruptions totalling ten minutes. The violent storm of June 7 damaged sections of transmission circuits and caused interruptions to customers in the Brantford, Grimsby, Oakville and Welland areas.

The 44,000-volt pin-type insulators were visually inspected during the year and all defective units replaced. A portion of the 24,000-volt insulators were also visually inspected and the defective units changed. Extensive maintenance work was carried out on the circuits serving Brantford, and these sections are now in good operating condition. Considerable maintenance work was carried out on the circuit between Bartonville switching station and Ancaster distribution station.

Transformation

At Bridgman-Davenport station hand-operated tap changers were installed on six 5,000-kv-a. high-tension transformers. At Wiltshire station three transformers were sent to the manufacturer for the installation of hand-operated tap changers, and this same equipment was also installed on thirty-four units at the station.

The core bracing was inspected and tightened on fifty-three 5,000-kv-a. transformers during the year.

At Dundas station one 5,000-kv-a. transformer failed in service during the storm of June 7. There was also a failure of one 1,250-kv-a. unit at St. Thomas. Both of these units have been rebuilt by the maintenance staff.

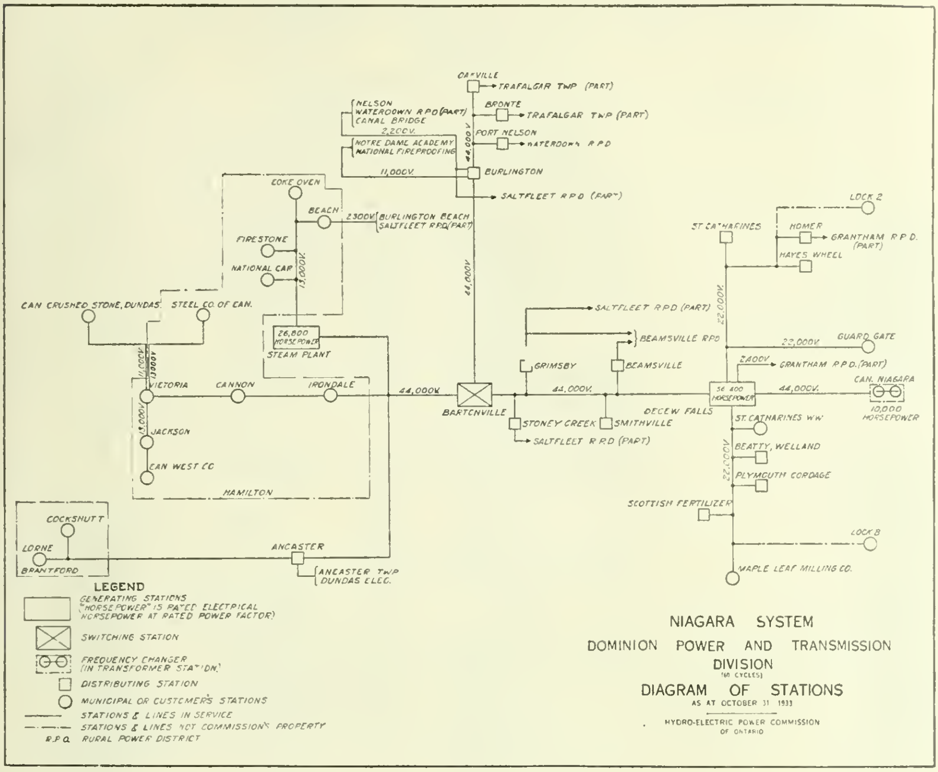
A new guided-wave radio transmitter and receiver was installed at Brant station, and the equipment in Strachan Avenue station was moved to Stratford.

Two complete inspections and overhaul of all outdoor breakers were carried out during the year, along with one complete inspection of the 110,000-volt indoor circuit breakers. In addition to this the regular schedule of inspection and maintenance was carried out at all high-tension stations.

Distribution

There were no new low-tension transformer stations put in service during the year, and no changes made in transformer capacity to any of the existing stations. There were twelve failures of low-tension transformers, ten of which were rebuilt in the field, and two units were scrapped. A new bank of transformers was installed at Toronto station, replacing three units of similar capacity which failed in service.

In the Brant district the railway and wire crossings were made standard. Extensive general overhauling of low-tension lines was carried out in the Preston,


OAKVILLE
TRAFALGAR TWP (PART)
BRONTE
TRAFALGAR TWP (PART)
NELSON
WATERDOWN R.P.D.(PART)
CANAL BRIDGE
2,200V.
PORT NELSON
WATERDOWN R.P.D.
NOTRE DAME ACADEMY
NATIONAL FIREPROOFING
44,000V
11,000V.
BURLINGTON
SALTFLEET R.P.D. (PART)
COKE OVEN
BEACH
2300V
BURLINGTON BEACH
SALTFLEET R.P.D.(PART)
FIRESTONE
NATIONAL CAR
13,000V.
44,000V
CAN CRUSHED STONE, DUNDAS
STEEL CO. OF CAN.
26,800 HORSEPOWER
STEAM PLANT
11,000V
13000V
VICTORIA
CANNON
IRONDALE
44,000V.
BARTONVILLE
13,000V
JACKSON
CAN WEST CO
HAMILTON
COCKSHUTT
LORNE
BRANTFORD
ANCASTER
ANCASTER TWP
DUNDAS ELEC.
SALTFLEET R.P.D. (PART)
BEAMSVILLE R.P.D.
GRIMSBY
BEAMSVILLE
44,000V.
STONEY CREEK
SMITHVILLE
SALTFLEET R.P.D. (PART)
DECEW FALLS
ST. CATHARINES
LOCK 2
HOMER
GRANTHAM R.P.D. (PART)
HAYES WHEEL
22,000V.
22,000V
GUARD GATE
2400V
GRANTHAM R.P.D. (PART)
56,400 HORSEPOWER
44,000V.
CAN. NIAGARA
10,000 HORSEPOWER
ST. CATHARINES WW
BEATTY, WELLAND
22,000V
PLYMOUTH CORDAGE
SCOTTISH FERTILIZER
LOCK 8
MAPLE LEAF MILLING CO.
LEGEND
GENERATING STATIONS ("HORSEPOWER" IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
SWITCHING STATION
FREQUENCY CHANGER (IN TRANSFORMER STATION)
DISTRIBUTING STATION
MUNICIPAL OR CUSTOMER'S STATIONS
STATIONS & LINES IN SERVICE
STATIONS & LINES NOT COMMISSION'S PROPERTY
R.P.D. RURAL POWER DISTRICT
NIAGARA SYSTEM
DOMINION POWER AND TRANSMISSION DIVISION
(60 CYCLES)
DIAGRAM OF STATIONS
AS AT OCTOBER 31 1933
HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Stratford, Woodstock, Brant and Kent stations. New air-break switches and switching structures were erected at Britannia junction and at Beachville substation.

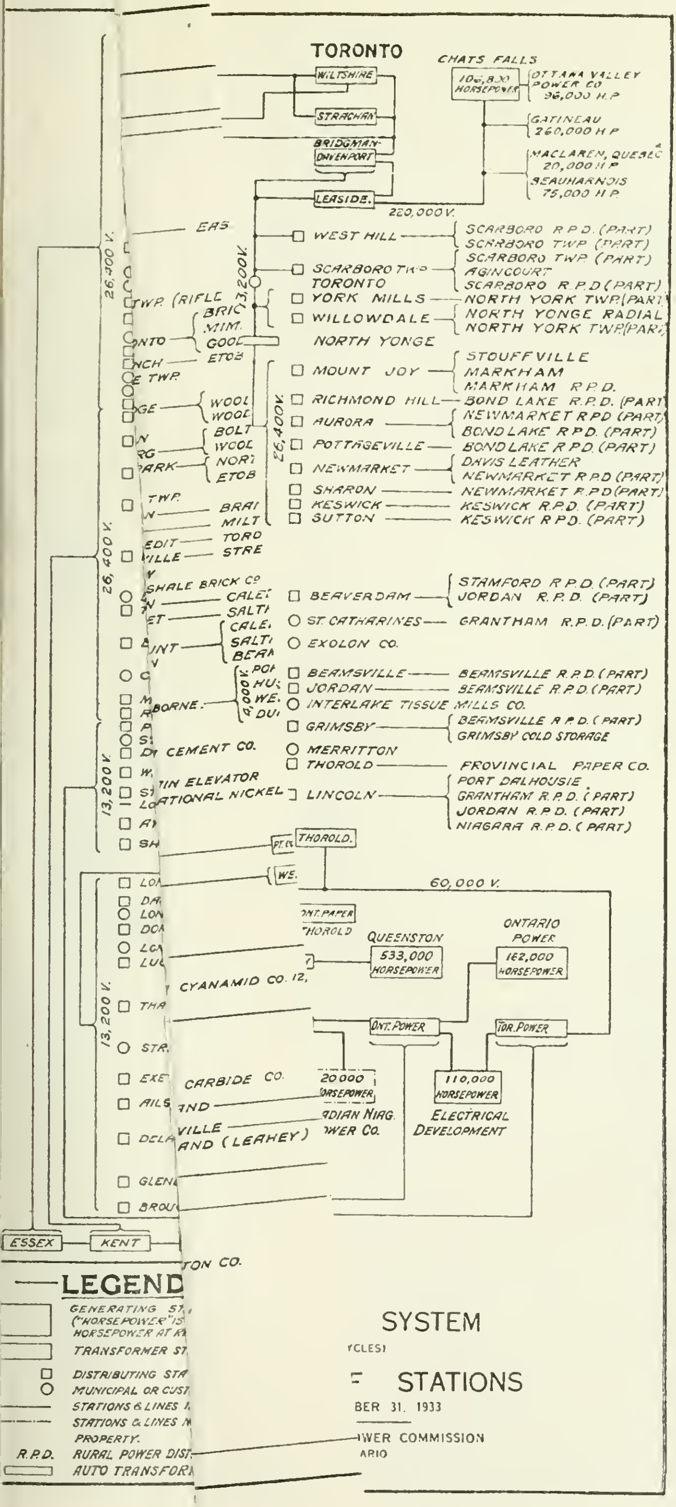
In order to obtain a longer life from wood poles, approximately 23,000 poles were uncovered at the ground line, the decayed wood removed, and the poles given a spray treatment of creosote.

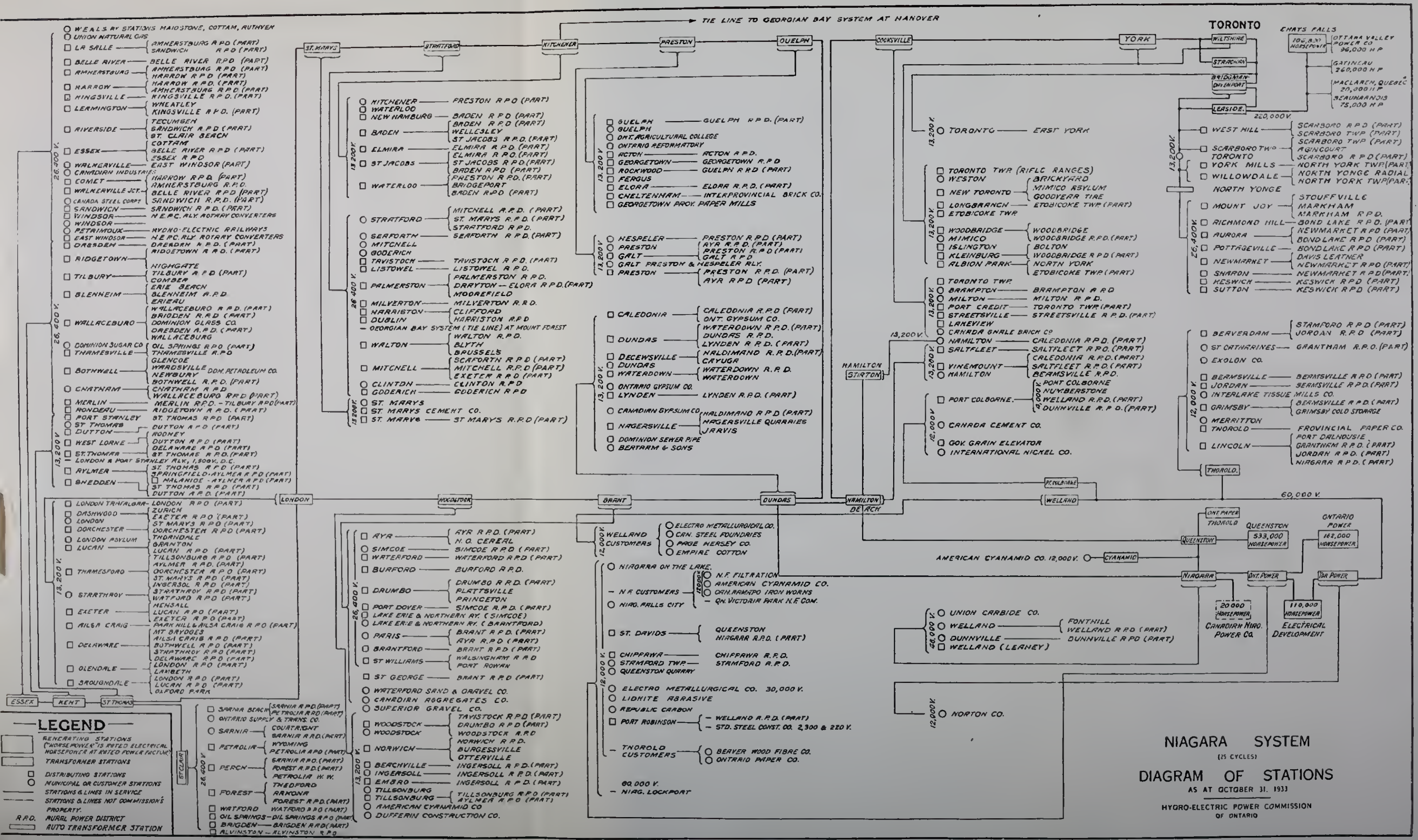
There were no new 26,000-volt or 13,000-volt lines placed in service during the year.

In the Dominion Power division, two 500-kv-a. transformers failed in service during the year, one at St. Catharines distributing station, and one at the Beatty-Welland distributing station. Both of these units were rewound and restored to service. The transformer failure at the Beatty-Welland substation was caused by lightning, the failure resulting in a fire which destroyed the station. Equipment was removed to a temporary substation and service was restored. Transformer stations at Thorold and Humberstone were dismantled, some of the equipment being salvaged and the balance disposed of. Service to the Welland Ship canal at lock No. 8, Humberstone guard gate, and lock No. 2 Port Weller, and to the National Fireproof Company, was discontinued during the year.

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Acton	681.7	787.6	832.6		45.0
Agincourt	149.0	155.2	116.6	38.6	
Ailsa Craig	147.9	81.5	88.6		7.1
Alvinston	94.2	87.9	82.8	5.1	
Amherstburg	714.5	661.6	616.6	45.0	
Ancaster Township	277.5	284.5	283.8	0.7	
Arkona	55.3	52.6	45.4	7.2	
Aurora	968.3	986.6	1,030.1		43.5
Aylmer	490.6	513.4	469.1	44.3	
Ayr	207.6	161.1	157.5	3.6	
Baden	281.2	237.9	241.7		3.8
Beachville	329.7	386.6	387.4		0.8
Belle River	146.8	124.6	119.3	5.3	
Blenheim	379.3	369.9	353.9	16.0	
Blyth	93.5	101.4	87.4	14.0	
Bolton	131.7	118.8	137.7		18.9
Bothwell	104.5	105.2	104.4	0.8	
Brampton	2,345.9	2,168.2	2,075.2	93.0	
Brantford	9,129.9	11,637.9	12,728.7		1,090.8
Brantford Township	530.8	505.1	605.6		100.5
Bridgeport	130.2	108.4	85.5	22.9	
Brigden	83.3	88.4	89.1		0.7
Brussels	134.4	132.1	108.8	23.3	
Burford	143.6	136.4	115.5	20.9	
Burgessville	55.2	57.1	54.1	3.0	
Caledonia	378.4	320.7	327.7		7.0
Campbellville	27.3	26.2	24.2	2.0	
Cayuga	96.2	119.9	112.6	7.3	
Chatham	4,167.0	4,285.0	4,258.1	26.9	
Chippawa	261.4	218.0	215.3	2.7	
Clifford	63.0	58.1	61.5		3.4
Clinton	462.4	408.8	374.5	34.3	
Comber	125.7	158.1	164.0		5.9
Cottam	69.3	62.7	58.0	4.7	
Courtright	40.7	39.4	38.4	1.0	
Dashwood	69.3	65.9	40.0	25.9	
Delaware	37.6	41.5	35.1	6.4	
Dorchester	81.7	67.0	95.7		28.7
Drayton	96.8	99.4	86.7	12.7	
Dresden	319.0	286.1	280.0	6.1	
Drumbo	64.2	67.7	66.3	1.4	
Dublin	48.6	34.2	42.9		8.7
Dundas	1,280.1	1,138.0	1,276.1		138.1
Dunnville	786.0	797.1	907.7		110.6
Dutton	236.8	237.4	211.9	25.5	
East Windsor	2,761.4	2,450.4	2,277.4	172.7	
Elmira	777.5	646.1	557.6	88.5	
Elora	411.5	384.7	291.4	93.3	
Embro	98.5	83.8	104.5		20.7
Erieau	61.6	70.7	72.6		1.9
Erie Beach	11.1	8.0	6.4	1.6	
Essex	372.1	336.4	361.9		25.5
Etobicoke Township	3,159.5	3,361.9	3,621.4		259.5
Exeter	404.8	424.9	382.0	42.9	


TORONTO
WILTSHIRE
STRACHAN
BRIDGMAN-DAVENPORT
LEASIDE.
220,000 V.
CHATS FALLS
106,800 HORSEPOWER
OTTAWA VALLEY POWER CO 96,000 H.P.
GATINEAU 260,000 H.P.
MACLAREN, QUEBEC 20,000 H.P.
BEAUHARNOIS 75,000 H.P.
WEST HILL
SCARBORO R.P.D. (PART)
SCARBORO TWP (PART)
SCARBORO TWP (PART)
SCARBORO TWP TORONTO
AGINCOURT
SCARBORO R.P.D (PART)
YORK MILLS
NORTH YORK TWP.(PART)
WILLOWDALE
NORTH YONGE RADIAL
NORTH YORK TWP.(PART)
NORTH YONGE
13,200 V.
26,400 V.
MOUNT JOY
STOUFFVILLE
MARKHAM
MARKHAM R.P.D.
RICHMOND HILL
BOND LAKE R.P.D. (PART)
AURORA
NEWMARKET R.P.D (PART)
BOND LAKE R.P.D. (PART)
POTTAGEVILLE
BOND LAKE R.P.D. (PART)
NEWMARKET
DAVIS LEATHER
NEWMARKET R.P.D (PART)
SHARON
NEWMARKET R.P.D (PART)
KESWICK
KESWICK R.P.D. (PART)
SUTTON
KESWICK R.P.D. (PART)
BEAVERDAM
STAMFORD R.P.D. (PART)
JORDAN R.P.D. (PART)
ST. CATHARINES
GRANTHAM R.P.D. (PART)
EXOLON CO.
BEAMSVILLE
BEAMSVILLE R.P.D. (PART)
JORDAN
BEAMSVILLE R.P.D. (PART)
INTERLAKE TISSUE MILLS CO.
GRIMSBY
BEAMSVILLE R.P.D. (PART)
GRIMSBY COLD STORAGE
MERRITTON
THOROLD
PROVINCIAL PAPER CO.
LINCOLN
PORT DALHOUSIE
GRANTHAM R.P.D. (PART)
JORDAN R.P.D. (PART)
NIAGARA R.P.D. (PART)
THOROLD.
60,000 V.
ONT. PAPER THOROLD
QUEENSTON
533,000 HORSEPOWER
ONTARIO POWER
162,000 HORSEPOWER
ONT. POWER
TOR. POWER
20,000 HORSEPOWER
110,000 HORSEPOWER
ELECTRICAL DEVELOPMENT
CYANAMID CO.
CARBIDE CO.
SHALE BRICK CO
CEMENT CO.
TIN ELEVATOR
NATIONAL NICKEL
26,400 V.
13,200 V.
4,000 V.
ESSEX
KENT
LEGEND
GENERATING ST
("HORSEPOWER" IS HORSEPOWER AT R
TRANSFORMER ST
DISTRIBUTING STA
MUNICIPAL OR CUST
STATIONS & LINES
STATIONS & LINES PROPERTY.
R.P.D. RURAL POWER DIST
AUTO TRANSFOR
SYSTEM
STATIONS
BER 31, 1933
WER COMMISSION
ARIO



TIE LINE TO GEORGIAN BAY SYSTEM AT HANOVER
ST. MARYS
STRATFORD
KITCHENER
PRESTON
GUELPH
COOKSVILLE
YORK
TORONTO
WILTSHIRE
STRACHAN
BRIDGMAN
DAVENPORT
LEASIDE
CHATS FALLS
106,830 HORSEPOWER
OTTAWA VALLEY POWER CO 96,000 H P
GATINEAU 260,000 H P
MACLAREN, QUEBEC 20,000 H P
BEAUHARNOIS 75,000 H P
220,000 V.
WEALS RY STATIONS MAIDSTONE, COTTAM, RUTHVEN
UNION NATURAL GAS
LA SALLE
AMHERSTBURG R P D (PART)
SANDWICH R P D (PART)
BELLE RIVER
BELLE RIVER R.P.D (PART)
AMHERSTBURG
AMHERSTBURG R P D (PART)
HARROW R P D (PART)
HARROW
HARROW R.P.D. (PART)
AMHERSTBURG R P D (PART)
KINGSVILLE
KINGSVILLE R P D. (PART)
LEAMINGTON
WHEATLEY
KINGSVILLE R P D. (PART)
RIVERSIDE
TECUMSEH
SANDWICH R P D (PART)
ST. CLAIR BEACH
ESSEX
COTTAM
BELLE RIVER R P D (PART)
ESSEX R P D
WALKERVILLE
EAST WINDSOR R P D (PART)
CANADIAN INDUSTRIES
COMET
HARROW R P D (PART)
AMHERSTBURG R.P.D.
WALKERVILLE JCT.
BELLE RIVER R P D (PART)
CANADA STEEL CORP
SANDWICH R.P.D. (PART)
SANDWICH
SANDWICH R P D. (PART)
WINDSOR
H.E.P.C. RLY. ROTARY CONVERTERS
WINDSOR
PETRIMOUX
HYDRO-ELECTRIC RAILWAYS
EAST WINDSOR
H.E.P.C. RLY. ROTARY CONVERTERS
DRESDEN
DRESDEN R P D. (PART)
RIDGETOWN R P D. (PART)
RIDGETOWN
HIGHGATE
TILBURY
TILBURY R P D (PART)
COMBER
BLENHEIM
ERIE BEACH
BLENHEIM R.P.D.
ERIEAU
WALLACEBURG
WALLACEBURO R P D. (PART)
BRIGDEN R.P.D (PART)
DOMINION GLASS CO.
DRESDEN R.P.D. (PART)
WALLACEBURG
DOMINION SUGAR CO
OIL SPRINGS R P D (PART)
THAMESVILLE
THAMESVILLE R P D
GLENCOE
BOTHWELL
WARDSVILLE
DOM. PETROLEUM CO.
NEWBURY
BOTHWELL R.P.D. (PART)
CHATHAM
CHATHAM R P D
WALLACEBURG R P D (PART)
MERLIN
MERLIN R.P.D. - TILBURY R P D (PART)
RONDEAU
RIDGETOWN R P D. (PART)
PORT STANLEY
ST. THOMAS R P D (PART)
ST THOMAS
DUTTON
DUTTON R P D (PART)
RODNEY
WEST LORNE
DUTTON R P D (PART)
DELAWARE R P D (PART)
ST. THOMAS
ST. THOMAS R.P.D. (PART)
LONDON & PORT STANLEY RLY. 1,500 V. D.C.
AYLMER
ST. THOMAS R P D (PART)
SPRINGFIELD-AYLMER R P D (PART)
SHEDDEN
MALAHIDE - AYLMER R P D (PART)
ST THOMAS R P D (PART)
DUTTON R P D (PART)
26,400 V.
13,200 V
ESSEX
KENT
ST THOMAS
LONDON
WOODSTOCK
BRANT
DUNDAS
HAMILTON BEACH
HAMILTON STIRTON
WELLAND
PT. COLBORNE
THOROLD
60,000 V.
LONDON TRAFALGAR
LONDON R P D (PART)
ZURICH
DASHWOOD
EXETER R P D (PART)
LONDON
ST MARYS R P D (PART)
DORCHESTER
DORCHESTER R P D (PART)
THORNDALE
LONDON ASYLUM
GRANTON
LUCAN
LUCAN R P D (PART)
TILLSONBURG R P D (PART)
AYLMER R.P.D. (PART)
THAMESFORD
DORCHESTER R P D (PART)
ST. MARYS R P D (PART)
INGERSOL R P D (PART)
STRATHROY
STRATHROY R P D (PART)
WATFORD R P D (PART)
HENSALL
EXETER
LUCAN R P D (PART)
EXETER R P D (PART)
AILSA CRAIG
PARKHILL & AILSA CRAIG R P D (PART)
MT BRYDGES
AILSA CRAIG R P D (PART)
DELAWARE
BOTHWELL R P D (PART)
STRATHROY R P D (PART)
DELAWARE R P D (PART)
GLENDALE
LONDON R P D (PART)
LAMBETH
BRUGENDALE
LONDON R P D (PART)
LUCAN R P D (PART)
OXFORD PARK
KITCHENER
WATERLOO
NEW HAMBURG
PRESTON R P D (PART)
BADEN R P D (PART)
BADEN
BADEN R P D (PART)
WELLESLEY
ST JACOBS R.P.D. (PART)
ELMIRA
ELMIRA R P D (PART)
ELMIRA R P D. (PART)
ST JACOBS
ST JACOBS R P D (PART)
BADEN R P D (PART)
WATERLOO
PRESTON R P D. (PART)
BRIDGEPORT
BADEN R P D (PART)
13,200 V.
STRATFORD
MITCHELL R.P.D. (PART)
ST. MARYS R.P.D. (PART)
STRATFORD R P D (PART)
SEAFORTH
SEAFORTH R P D. (PART)
MITCHELL
GODERICH
TAVISTOCK
TAVISTOCK R P D. (PART)
LISTOWEL
LISTOWEL R P D.
PALMERSTON
PALMERSTON R P D.
DRAYTON - ELORA R P D (PART)
MOOREFIELD
MILVERTON
MILVERTON R.P.D.
HARRISTON
CLIFFORD
DUBLIN
HARRISTON R P D
GEORGIAN BAY SYSTEM (TIE LINE) AT MOUNT FOREST
WALTON
WALTON R.P.D.
BLYTH
BRUSSELS
MITCHELL
SEAFORTH R P D (PART)
MITCHELL R.P.D (PART)
EXETER R P D (PART)
CLINTON
CLINTON R P D
GODERICH
GODERICH R P D
ST. MARYS
ST. MARYS CEMENT CO.
ST. MARYS
ST MARYS R.P.D (PART)
26,400 V.
13,200 V.
GUELPH
GUELPH R P D. (PART)
GUELPH
ONT. AGRICULTURAL COLLEGE
ONTARIO REFORMATORY
ACTON
ACTON R P D.
GEORGETOWN
GEORGETOWN R.P.D
ROCKWOOD
GUELPH R P D (PART)
FERGUS
ELORA
ELORA R.P.D. (PART)
CHELTENHAM
INTERPROVINCIAL BRICK CO.
GEORGETOWN PROV. PAPER MILLS
HESPELER
PRESTON R.P.D (PART)
PRESTON
AYR R.P.D. (PART)
GALT
PRESTON R P D (PART)
GALT R P D
GALT PRESTON & HESPELER RLY.
PRESTON
PRESTON R.P.D. (PART)
AYR R P D (PART)
CALEDONIA
CALEDONIA R.P.D (PART)
ONT. GYPSUM CO.
DUNDAS
WATERDOWN R P.D. (PART)
DUNDAS R.P.D.
LYNDEN R P D. (PART)
DECEWSVILLE
HALDIMAND R. P. D. (PART)
DUNDAS
CAYUGA
WATERDOWN
WATERDOWN R. P. D.
WATERDOWN
ONTARIO GYPSUM CO.
LYNDEN
LYNDEN R.P.D. (PART)
CANADIAN GYPSUM CO.
HALDIMAND R P D (PART)
HAGERSVILLE
HAGERSVILLE QUARRIES
JARVIS
DOMINION SEWER PIPE
BERTRAM & SONS
13,200 V.
AYR
AYR R.P.D. (PART)
N. O. CEREAL
SIMCOE
SIMCOE R P D (PART)
WATERFORD
WATERFORD R P D (PART)
BURFORD
BURFORD R.P.D.
DRUMBO
DRUMBO R P D. (PART)
PLATTSVILLE
PRINCETON
PORT DOVER
SIMCOE R.P.D. (PART)
LAKE ERIE & NORTHERN RY. (SIMCOE)
LAKE ERIE & NORTHERN RY. (BRANTFORD)
PARIS
BRANT R P D. (PART)
AYR R.P.D. (PART)
BRANTFORD
BRANT R P D (PART)
ST WILLIAMS
WALSINGHAM R P D
PORT ROWAN
ST GEORGE
BRANT R P D (PART)
WATERFORD SAND & GRAVEL CO.
CANADIAN AGGREGATES CO.
SUPERIOR GRAVEL CO.
WOODSTOCK
TAVISTOCK R P D (PART)
DRUMBO R P D (PART)
WOODSTOCK
WOODSTOCK R P D
NORWICH
NORWICH R P D.
BURGESSVILLE
OTTERVILLE
BEACHVILLE
INGERSOLL R P D. (PART)
INGERSOLL
INGERSOLL R P D (PART)
EMBRO
INGERSOLL R P D (PART)
TILLSONBURG
TILLSONBURG
TILLSONBURG R P D (PART)
AYLMER R P D (PART)
AMERICAN CYANAMID CO
DUFFERIN CONSTRUCTION CO.
26,400 V.
13,200 V.
ST. CLAIR
SARNIA BEACH
SARNIA R P D (PART)
PETROLIA R P D (PART)
ONTARIO SUPPLY & TRANS. CO.
SARNIA
COURTRIGHT
SARNIA R P D (PART)
PETROLIA
WYOMING
PETROLIA R P D (PART)
SARNIA R P D. (PART)
PERCH
FOREST R P D (PART)
PETROLIA H. W.
THEDFORD
FOREST
ARKONA
FOREST R P D (PART)
WATFORD
WATFORD R P D (PART)
OIL SPRINGS
OIL SPRINGS R P D (PART)
BRIGDEN
BRIGDEN R P D (PART)
ALVINSTON
ALVINSTON R P D
TORONTO
EAST YORK
13,200 V.
TORONTO TWP. (RIFLE RANGES)
WESTON
BRICKYARD
NEW TORONTO
MIMICO ASYLUM
GOODYEAR TIRE
LONGBRANCH
ETOBICOKE TWP (PART)
ETOBICOKE TWP
WOODBRIDGE
WOODBRIDGE
MIMICO
WOODBRIDGE R.P.D. (PART)
ISLINGTON
BOLTON
KLEINBURG
WOODBRIDGE R P D (PART)
ALBION PARK
NORTH YORK
ETOBICOKE TWP (PART)
TORONTO TWP.
BRAMPTON
BRAMPTON R P D
MILTON
MILTON R P D.
PORT CREDIT
TORONTO TWP (PART)
STREETSVILLE
STREETSVILLE R P D. (PART)
LAKEVIEW
CANADA SHALE BRICK CO
13,200 V.
HAMILTON
CALEDONIA R P D. (PART)
SALTFLEET
SALTFLEET R P D. (PART)
CALEDONIA R P D (PART)
VINEMOUNT
SALTFLEET R P D. (PART)
HAMILTON
BEAMSVILLE R P D.
PORT COLBORNE
PORT COLBORNE
HUMBERSTONE
WELLAND R.P.D. (PART)
DUNNVILLE R. P. D. (PART)
CANADA CEMENT CO.
GOV. GRAIN ELEVATOR
INTERNATIONAL NICKEL CO.
12,000 V.
13,200 V.
WEST HILL
SCARBORO R P D (PART)
SCARBORO TWP (PART)
SCARBORO TWP
SCARBORO TWP (PART)
TORONTO
AGINCOURT
SCARBORO R P D (PART)
YORK MILLS
NORTH YORK TWP (PART)
WILLOWDALE
NORTH YONGE RADIAL
NORTH YORK TWP (PART)
NORTH YONGE
MOUNT JOY
STOUFFVILLE
MARKHAM
MARKHAM R P D.
RICHMOND HILL
BOND LAKE R P D. (PART)
AURORA
NEWMARKET R P D (PART)
BOND LAKE R P D (PART)
POTTAGEVILLE
BOND LAKE R P D (PART)
DAVIS LEATHER
NEWMARKET
NEWMARKET R P D (PART)
SHARON
NEWMARKET R P D (PART)
KESWICK
KESWICK R P D (PART)
SUTTON
KESWICK R P D (PART)
26,400 V.
BEAVERDAM
STAMFORD R P D (PART)
JORDAN R P D (PART)
ST CATHARINES
GRANTHAM R.P.D. (PART)
EXOLON CO.
BEAMSVILLE
BEAMSVILLE R P D (PART)
JORDAN
BEAMSVILLE R P D (PART)
INTERLAKE TISSUE MILLS CO.
GRIMSBY
BEAMSVILLE R P D (PART)
GRIMSBY COLD STORAGE
MERRITTON
THOROLD
FROVINCIAL PAPER CO.
PORT DALHOUSIE
GRANTHAM R P D. (PART)
LINCOLN
JORDAN R P D. (PART)
NIAGARA R P D. (PART)
12,000 V.
ONT PAPER THOROLD
QUEENSTON
QUEENSTON 533,000 HORSEPOWER
ONTARIO POWER 162,000 HORSEPOWER
CYANAMID
AMERICAN CYANAMID CO. 12,000 V.
NIAGARA
ONT. POWER
TOR. POWER
20,000 HORSEPOWER
CANADIAN NIAG. POWER CO
110,000 HORSEPOWER
ELECTRICAL DEVELOPMENT
WELLAND CUSTOMERS
ELECTRO METALLURGICAL CO.
CAN. STEEL FOUNDRIES
PAGE HERSEY CO.
EMPIRE COTTON
12,000 V.
NIAGARA ON THE LAKE.
N.F. FILTRATION
N.F. CUSTOMERS
AMERICAN CYANAMID CO.
CAN. ARMAPO IRON WORKS
QN. VICTORIA PARK N.F. COM.
12,000 V.
NIAG. FALLS CITY
ST. DAVIDS
QUEENSTON
NIAGARA R.P.D. (PART)
CHIPPAWA
CHIPPAWA R.P.D.
STAMFORD TWP.
STAMFORD R.P.D.
QUEENSTON QUARRY
ELECTRO METALLURGICAL CO. 30,000 V.
LIGNITE ABRASIVE
REPUBLIC CARBON
PORT ROBINSON
WELLAND R.P.D. (PART)
STD. STEEL CONST. CO. 2,300 & 220 V.
THOROLD CUSTOMERS
BEAVER WOOD FIBRE CO.
ONTARIO PAPER CO.
60,000 V.
NIAG. LOCKPORT
12,000 V.
UNION CARBIDE CO.
WELLAND
FONTHILL
WELLAND R P D (PART)
DUNNVILLE
DUNNVILLE R PD (PART)
WELLAND (LEAHEY)
26,000 V.
NORTON CO.
12,000 V.
LEGEND
GENERATING STATIONS ("HORSEPOWER" IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
TRANSFORMER STATIONS
DISTRIBUTING STATIONS
MUNICIPAL OR CUSTOMER STATIONS
STATIONS & LINES IN SERVICE
STATIONS & LINES NOT COMMISSION'S PROPERTY.
R.P.D. RURAL POWER DISTRICT
AUTO TRANSFORMER STATION

NIAGARA SYSTEM

(25 CYCLES)

DIAGRAM OF STATIONS

AS AT OCTOBER 31, 1933

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933—Continued

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Fergus	686.3	652.5	705.0	....	52.5
Fonthill	163.6	138.5	133.2	5.3	....
Forest	305.6	332.1	320.6	11.5	....
Galt	6,301.6	6,071.1	5,858.7	212.4	....
Georgetown	889.0	902.7	978.3	....	75.6
Glencoe	173.2	170.8	163.7	7.1	....
Goderich	983.4	970.5	991.9	....	21.4
Granton	93.4	90.4	96.5	....	6.1
Guelph	7,794.9	7,710.5	7,812.3	....	101.8
Hagersville	943.7	1,046.9	418.2	628.7	....
Hamilton	86,641.1	76,409.6	83,832.3	....	7,422.7
Harriston	311.6	289.2	247.2	42.0	....
Harrow	368.6	332.1	332.7	....	0.6
Hensall	165.5	150.4	121.6	28.8	....
Hespeler	1,831.4	1,864.9	1,879.7	....	14.8
Highgate	59.9	61.6	69.0	....	7.4
Humberstone	384.7	324.4	386.7	....	62.3
Ingersoll	1,915.9	1,870.0	1,969.0	....	99.0
Jarvis	179.9	178.7	150.1	28.6	....
Kingsville	446.4	420.9	431.6	....	10.7
Kitchener	15,834.7	14,874.6	15,000.6	....	126.0
Lambeth	107.2	99.6	94.9	4.7	....
La Salle	241.3	211.5	199.0	12.5	....
Leamington	1,065.9	1,112.6	1,327.0	....	214.4
Listowel	865.3	906.1	808.3	97.8	....
London	27,908.8	29,437.4	30,201.2	....	763.8
London Township V.A.	311.2	371.4	358.5	12.9	....
Long Branch	754.1	736.0	733.9	2.1	....
Lucan	174.1	134.0	136.0	....	2.0
Lynden	83.1	74.5	66.3	8.2	....
Markham	238.6	249.3	211.8	37.5	....
Merlin	91.8	94.7	66.7	28.0	....
Merritton	2,281.5	2,737.3	2,765.1	....	27.8
Milton	705.3	597.1	804.4	....	207.3
Milverton	344.5	311.4	295.6	15.8	....
Mimico	2,103.1	2,211.8	2,218.5	....	6.7
Mimico Asylum	65.0	65.0	100.0	....	35.0
Mitchell	500.0	422.2	433.8	....	11.6
Moorefield	48.2	58.2	45.5	12.7	....
Mount Brydges	89.0	92.7	79.6	13.1	....
Newbury	41.8	43.4	40.6	2.8	....
New Hamburg	492.3	470.2	399.1	71.1	....
Newmarket	1,340.5	1,380.7	1,285.5	95.2	....
New Toronto	5,194.4	4,766.7	4,790.8	....	24.1
Niagara Falls	9,351.2	8,774.0	9,135.6	....	361.6
Niagara-on-the-Lake	536.2	548.8	546.1	2.7	....
Norwich	331.7	335.1	308.3	26.8	....
Oil Springs	156.9	172.7	159.3	13.4	....
Ontario Agricultural College	401.6	427.6	469.1	....	41.5
Ontario Central Reformatory	282.8	249.3	243.9	5.4	....
Otterville	83.6	77.7	84.3	....	6.6

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933—Continued

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Palmerston	518.9	458.5	437.5	21.0	....
Paris	1,242.0	1,178.4	1,197.2	....	18.8
Parkhill	140.7	131.3	124.2	7.1	....
Petrolia	731.4	761.7	685.8	75.9	....
Plattsville	60.8	53.3	60.2	....	6.9
Point Edward	267.4	689.0	636.7	52.3	....
Port Colborne	1,608.6	1,407.5	1,420.9	....	13.4
Port Credit	537.5	549.3	611.2	....	61.9
Port Dalhousie	457.1	439.7	503.7	....	64.0
Port Dover	315.2	315.6	296.5	19.1	....
Port Rowan	74.2	73.0	67.1	5.9	....
Port Stanley	220.9	228.5	261.5	....	33.0
Preston	3,128.6	2,560.3	2,461.1	99.2	....
Princeton	101.3	103.2	98.8	4.4	....
Queenston	87.1	83.5	80.7	2.8	....
Richmond Hill	317.3	297.0	293.1	3.9	....
Ridgetown	416.9	439.7	446.4	....	6.7
Riverside	1,212.7	1,200.6	1,104.9	95.7	....
Rockwood	104.5	104.5	89.8	14.7	....
Rodney	145.6	145.7	131.1	14.6	....
St. Catharines	8,449.7	7,872.8	7,854.2	18.6	....
St. Clair Beach	97.6	90.7	72.6	18.1	....
St. George	92.5	147.4	129.3	18.1	....
St. Jacobs	140.2	152.8	151.4	1.4	....
St. Marys	1,521.9	1,501.8	1,225.7	276.1	....
St. Thomas	5,643.4	5,761.4	6,179.6	....	418.2
Sandwich	3,459.3	2,996.4	2,956.2	40.2	....
Sarnia	6,801.6	7,360.6	7,581.1	....	220.5
Scarboro Township	3,034.8	3,124.6	2,981.5	143.1	....
Seaforth	510.9	465.3	408.8	56.5	....
Simcoe	1,491.1	1,546.1	1,613.9	....	67.8
Springfield	52.9	65.6	59.0	6.6	....
Stamford Township	1,831.1	1,859.8	1,819.0	40.8	....
Stouffville	194.7	204.1	167.9	36.2	....
Stratford	7,790.6	7,180.2	6,530.9	649.3	....
Strathroy	1,000.0	910.2	946.4	....	36.2
Sutton	150.4	152.7	153.5	....	0.8
Tavistock	523.6	496.0	424.6	71.4	....
Tecumseh	443.8	302.2	294.7	7.5	....
Thamesford	154.1	158.8	159.5	....	0.7
Thamesville	178.3	171.0	163.5	7.5	....
Thedford	60.8	57.6	127.0	....	69.4
Thorndale	46.1	40.6	36.4	4.2	....
Thorold	1,941.7	1,956.4	1,914.6	41.8	....
Tilbury	321.7	366.6	398.1	....	31.5
Tillsonburg	884.7	891.0	900.1	....	9.1
Toronto	289,262.7	280,795.0	269,144.8	11,650.2	....
Toronto Township	1,668.1	1,868.0	1,793.7	74.3	....
Walkerville	6,348.5	5,454.7	5,336.4	118.3	....
Wallaceburg	1,059.0	1,252.0	1,888.7	....	636.7
Wardsville	38.0	35.4	34.3	1.1	....
Waterdown	231.9	191.7	201.0	....	9.3
Waterford	380.0	406.8	399.4	7.4	....
Waterloo	2,946.2	2,660.8	2,668.9	....	8.1

NIAGARA SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933—Concluded

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Watford	200.4	186.3	185.0	1.3	....
Welland	3,967.8	3,576.4	3,918.2	....	341.8
Wellesley	142.7	97.7	94.7	3.0	....
West Lorne	97.8	105.9	98.6	7.3	....
Weston	2,619.2	2,453.1	2,790.8	....	337.7
Wheatley	155.7	143.1	123.7	19.4	....
Windsor	25,431.8	23,029.9	20,550.3	2,479.6	....
Woodbridge	293.5	247.9	261.4	....	13.5
Woodstock	4,781.5	4,785.5	4,950.4	....	164.9
Wyoming	60.3	64.6	75.2	....	10.6
York, East Township	5,138.0	5,504.0	5,330.7	173.3	....
York, North Township	2,757.4	2,829.7	2,890.0	....	60.3
Zurich	85.9	76.4	64.8	11.6	....

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS, 1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Acton	10.0	10.0	10.0	....	....
Ailsa Craig	5.6	5.6	5.6	....	....
Alvinston	3.2	3.2	3.2	....	....
Amherstburg	518.8	533.7	496.7	37.0	....
Aylmer	304.8	294.4	291.1	3.3	....
Ayr	32.0	42.5	42.5	....	....
Baden	293.0	398.6	367.1	31.5	....
Beamsville	1,072.2	1,061.1	1,030.7	30.4	....
Belle River	269.9	254.9	220.0	34.9	....
Blenheim	153.5	143.6	118.5	25.1	....
Bond Lake	840.7	897.2	926.4	....	29.2
Bothwell	102.7	115.6	89.0	26.6	....
Brampton	127.3	133.3	130.0	3.3	....
Brant	565.2	464.9	434.4	30.5	....
Brigden	35.7	38.0	31.5	6.5	....
Burford	145.3	155.9	170.5	....	14.6
Caledonia	260.5	322.0	300.5	21.5	....
Chatham	434.0	441.3	473.5	....	32.2
Chippawa	109.9	102.2	99.2	3.0	....
Clinton	124.6	125.2	121.7	3.5	....
Delaware	297.2	265.3	299.5	....	34.2
Dorchester	335.9	329.4	269.2	60.2	....
Dresden	28.5	34.6	42.2	....	7.6
Drumbo	64.6	79.2	59.0	20.2	....
Dundas	552.3	578.3	582.6	....	4.3
Dunnville	29.0	42.0	42.0	....	....
Dutton	115.7	122.8	126.0	....	3.2

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS, 1931-1932-1933—Continued

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Elmira	72.7	79.6	70.2	9.4	....
Elora	139.8	105.7	98.2	7.5	....
Essex	213.9	201.0	189.6	11.4	....
Exeter	217.6	245.5	235.3	10.2	....
Forest	28.0	28.0	28.0	....	....
Galt	179.6	197.9	181.3	16.6	....
Georgetown	132.4	134.8	124.9	9.9	....
Goderich	71.5	84.0	84.2	....	0.2
Grantham Township	643.2	527.1	611.1	....	84.0
Guelph	392.1	415.5	411.5	4.0	....
Haldimand	193.2	240.0	164.0	76.0	....
Harriston	22.1	23.9	20.0	3.9	....
Harrow	399.4	345.1	323.6	21.5	....
Ingersoll	370.6	329.8	337.8	....	8.0
Jordan	200.0	320.0	282.0	38.0	....
Keswick	291.1	381.6	395.8	....	14.2
Kingsville	526.6	545.8	453.5	92.3	....
Listowel	113.9	131.9	132.7	....	0.8
London	1,451.8	1,509.0	1,523.7	....	14.7
Lucan	65.3	64.6	60.2	4.4	....
Lynden	160.0	177.2	166.5	10.7	....
Markham	387.7	453.0	423.8	29.2	....
Merlin	157.5	175.2	177.5	....	2.3
Milton	124.8	128.2	140.0	....	11.8
Milverton	74.5	69.5	65.5	4.0	....
Mitchell	190.4	187.8	172.2	15.6	....
Newmarket	290.3	255.7	225.3	30.4	....
Niagara	598.9	434.5	395.9	38.6	....
Norwich	207.7	202.3	241.3	....	39.0
Oil Springs	45.5	44.9	45.5	....	0.6
Palmerston	31.5	37.5	48.0	....	10.5
Petrolia	25.3	25.3	25.3	....	....
Preston	848.1	848.2	854.7	....	6.5
Ridgetown	284.2	260.8	227.9	32.9	....
St. Jacobs	241.9	218.5	268.8	....	50.3
St. Marys	243.6	210.4	183.8	26.6	....
St. Thomas	465.0	469.3	483.2	....	13.9
Saltfleet	1,114.6	1,029.9	966.1	63.8	....
Sandwich	1,008.3	1,001.9	908.0	93.9	....
Sarnia	491.1	466.4	485.3	....	18.9
Scarboro Township	315.0	296.6	358.4	....	61.8
Seaforth	46.3	47.8	53.2	....	5.4
Simcoe	175.0	231.0	205.4	25.6	....
Stamford	193.0	185.1	156.5	28.6	....
Stratford	176.1	164.9	104.6	60.3	....
Strathroy	96.6	95.0	93.2	1.8	....
Streetsville	376.2	324.3	251.1	73.2	....

NIAGARA SYSTEM—RURAL POWER DISTRICT LOADS, 1931-1932-1933—Concluded

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Tavistock	165.7	194.4	153.6	40.8	....
Thamesville	105.9	100.9	108.6	....	7.7
Tilbury	78.1	119.4	134.6	....	15.2
Tillsonburg	321.3	302.4	314.4	....	12.0
Wallaceburg	180.5	179.8	173.1	6.7	....
Walsingham	128.7	150.8	144.3	6.5	....
Walton	84.5	70.7	82.8	....	12.1
Waterdown	830.5	906.5	676.2	230.3	....
Waterford	129.2	158.2	174.9	....	16.7
Watford	17.6	16.4	22.0	....	5.6
Welland	1,115.3	1,161.8	1,079.1	82.7	....
Woodbridge	561.9	550.0	537.9	12.1	....
Woodstock	480.6	487.4	483.3	4.1	....

GEORGIAN BAY SYSTEM

The Georgian Bay system peak and average loads both show a decrease of approximately three per cent compared with last year and this is almost entirely due to the reduced demands in the Midland areas, plus the loss of considerable load owing to two large stone crushing plants closing down for the greater part of the year.

Storage water reserves on the system were considerably below normal toward the latter part of the year, due to the exceedingly hot summer combined with a long period of low precipitation, and stream flows were reduced to such an extent that from July until the end of the year it was necessary to supply a large amount of power from the Niagara system, through the Hanover frequency changer set, in order to conserve water for plant operation over the winter period. Assistance was given to the Orillia Water, Light and Power Commission during this period, as Orillia's plant at Swift rapids was unable to carry its load due to reduced flows in the Severn river.

A new 22,000-volt transmission line was built from a point on the old line about two miles west of Shelburne, south, to intersect the old line running west to Grand Valley. From the point of intersection, east to the former Grand Valley junction, the old line was restrung with larger conductor and a new line built from this point to Orangeville. The new line was required as the old line was of insufficient capacity to carry the increased loads and provide proper voltage regulation.

On March 19 and 20, shortly after the new line was placed in service, a severe sleet storm in the area between Dundalk and Orangeville caused heavy damage to telephone, telegraph and power lines. The excessive weight of sleet on wires and cables caused a number of breaks, particularly on the telephone lines, which hindered restoration of service. It was especially gratifying that the new line was completed prior to the sleet season as this storm would in all probability have caused serious damage to the old line.

The 4,000-volt line between Grand Valley and Arthur was rebuilt. Approximately one hundred new poles were erected, the line was resagged, poles straightened and a number of guys added.

Special inspection was made and defective crossarms, insulators and pins replaced on lines from Eugenia powerhouse to Collingwood, from Hanover to Chesley and Paisley, from Big Chute powerhouse to Waubaushene, from Waubaushene to Elmvale and from South Falls powerhouse to Huntsville.

To conform with specifications of the Board of Railway Commissioners for Canada, the power lines at railway and telephone crossings were reinforced on line sections from Eugenia generating station to Owen Sound, from Eugenia generating station to Durham and Mount Forest, from Flesherton to Shelburne, from Fergusonvale to Collingwood, from Big Chute generating station to Waubaushene, from Waubaushene to Barrie and all south of Barrie, also all lines in Wasdells district.

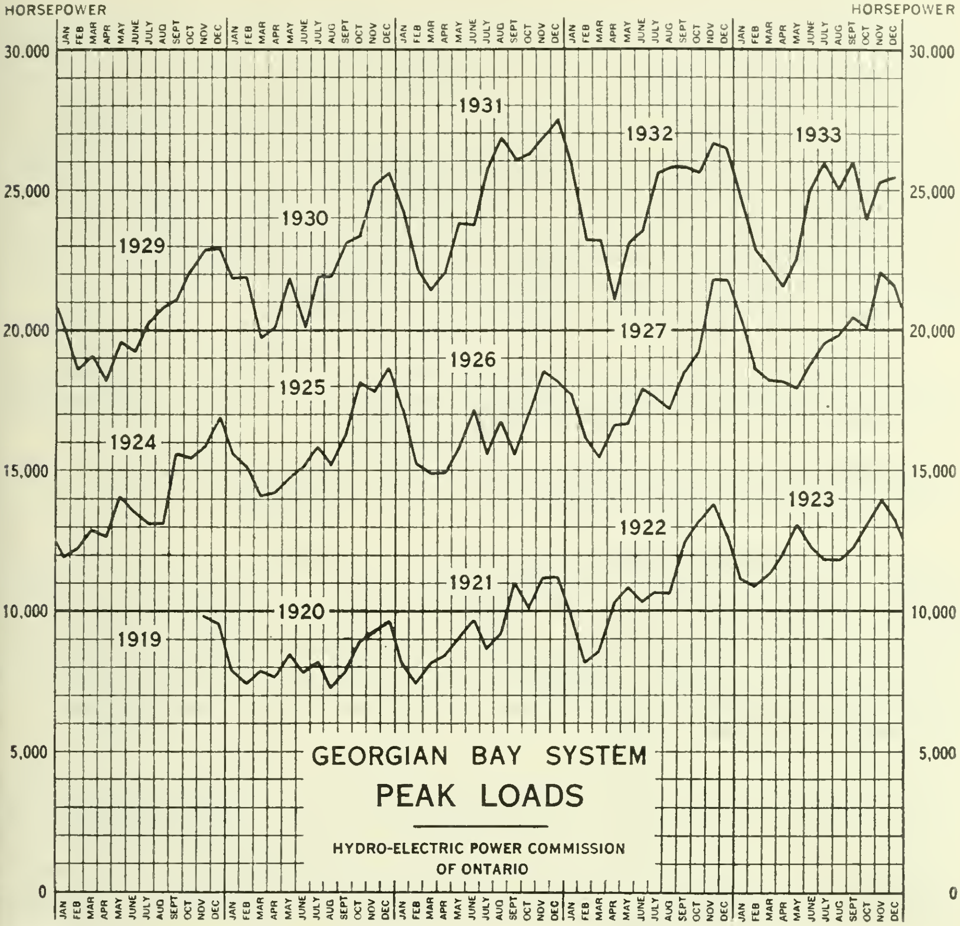
To accommodate changes in highway locations, a number of poles were moved or lowered between Kilsyth and Tara, between Waubaushene and Midland, between Waubaushene and Elmvale and between Barrie and Bradford.

All poles in the section of transmission line between Gamebridge and Kirkfield and in all line sections of the Wasdells district south of Cannington, received treatment at the ground line with preservative.

Over the whole system, 153 poles were reinforced by the addition of stubs and 21 poles were replaced.

At Eugenia Falls plant, improvements were made in the station grounding to bring it up to standard and the 60-cell storage battery was replaced with a new battery. The timber in the trestle under No. 1 pipe line east of the surge tanks was replaced by the Operating department, and the Construction department placed a culvert under the No. 1 and No. 2 pipe line trestles along with a fill of rock, gravel and earth. Repairs were made to No. 3 unit draft tube quarter turn, also to the turbine runner and shaft. The work on the draft tube quarter turn and on the runner was done at the Commission's machine shop at Niagara Falls. This involved building up eroded sections by welding and altering the downstream clearance ring. A forged steel sleeve for the shaft at the stuffing box was supplied to replace the defective bronze sleeve and the necessary machine work was done at Eugenia Falls powerhouse. No. 1 and No. 2 turbines were also inspected but only minor repairs were necessary.

At Walkerton generating station dam, repairs were made by the Construction department, which included the driving of sheet piling to form a cut-off wall to correct leaks under the centre portion of dam, provision of fills on the upstream



NOTE:—The Georgian Bay system includes the Severn, Eugenia, Wasdells, Muskoka and Bala districts. In the diagram the load for the Muskoka, district is not included until November, 1924. Details respecting this load for preceeding years are given in earlier Annual Reports. The load of the new district at Bala is not included in above graph until April, 1931, previous meter records being incomplete

side to prevent scouring, and the construction of rock-filled timber cribs on the downstream side at the east end of the dam, to divert the water and prevent a washout of the shore. While this work was proceeding, excessive flows developed in the river and required that a large flow be allowed to pass through the waste sluice at Walkerton plant. The action of the water started to scour the earth bank at the north-west corner of the powerhouse on the tailrace side. To protect the bank, it was necessary to construct a bench type timber crib with wood sheet piling on the side next the water. The crib was filled with rock and gravel.

At Walkerton plant, which was shut down while repairs to the dam were in progress, an inspection was made of the turbines and hydraulic equipment and minor adjustment and repairs were made. The 2,300-volt tie line was rearranged to provide greater safety.

At Hanover generating station dam, bad leaks developed at the junction of the old and new sections November 7, 1932. Examination revealed that pond water had scoured a channel under a bulkhead wall where it joins the north wall of the main sluice section. Repairs consisted of driving necessary piling to cut off any flow of water under the bulkhead, the underpinning of bulkhead to ensure its stability, erection of a protective crib, and the restoration of original fills. By agreement, this dam was later turned over to the town of Hanover as the town is interested in the maintenance of this dam to provide a supply of water for its pumping station. Water can still be secured for the operation of the Commission's hydraulic plant when required, limited only by the natural river flow, and a certain reserve for pumping plant operation.

At Hanover generating station, repairs were made to the concrete wing wall on the north side of the intake canal adjacent to the plant. The concrete had become defective and excessive leaks developed.

At Hanover frequency-changer station, operation for the past year was very satisfactory and no special maintenance work was required.

At Big Chute generating station, the No. 1 transformer room and the low-tension room were painted. The field and armature coils of all machines were painted with insulating paint. No. 1 oil pump for supplying oil pressure to the governor system, which had given trouble, was redesigned, and after being placed in operation gave complete satisfaction. A number of decayed stop logs in the main dam were replaced with new logs. All hydraulic equipment was inspected and minor adjustments made.

At Wasdells generating station, septic tanks and disposal beds for the superintendent's house and the generating station were constructed and the domestic water supply for the superintendent's house and powerhouse was re-arranged. In conjunction with this work, improvements to the grounds around the plant were carried out. The bearings in the No. 2 unit were removed because of wear and were rebabbitted.

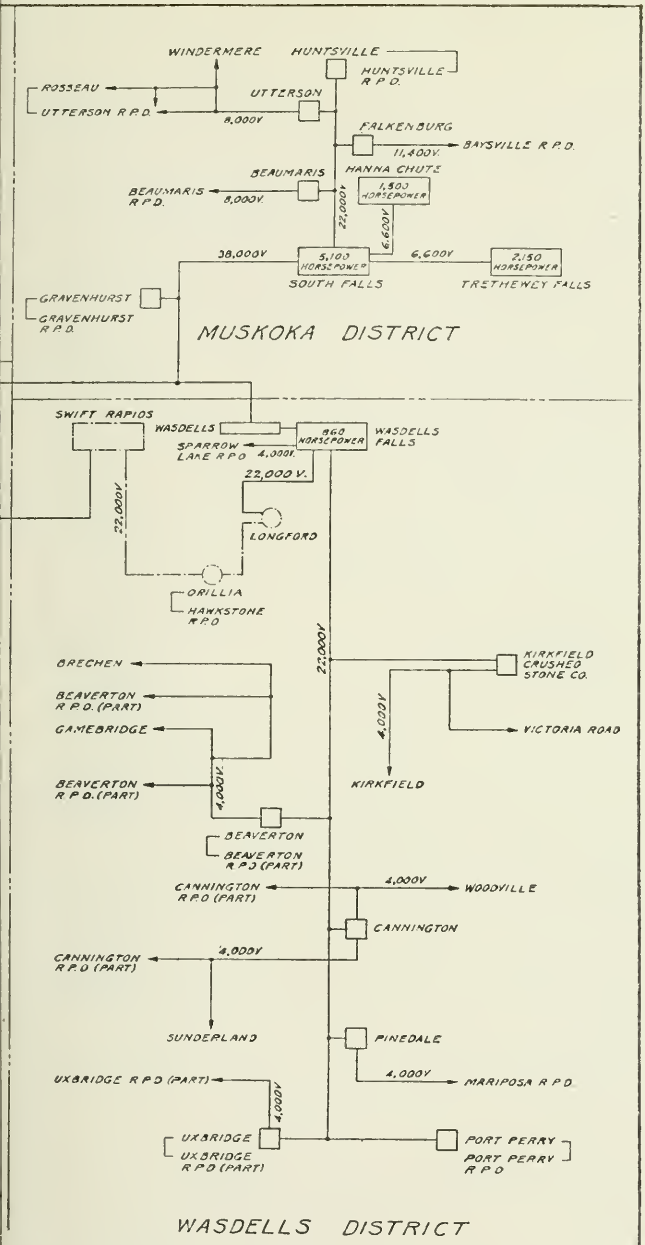
At South Falls generating station, owing to a failure of the screws holding the shaft cap, which in turn holds the thrust ring in place on the upstream end of No. 3 unit shaft, a change in design was decided upon and alterations were made to both No. 1 and No. 3 units, which are of similar construction, to guard against further trouble from this source.

At Hanna Chute and Trethewey Falls generating stations, routine inspections of machines, buildings and water controlling structures were made, and only minor repairs were necessary.

At Owen Sound distributing station, improvements were made to station grounding in order to bring the grounding layout up to standard.

At Chatsworth distributing station, all 22,000-volt bus insulators were replaced, as they had given evidence of having served their useful life.

At Shelburne distributing station, the high-voltage and low-voltage entrance structures were redesigned and a new airbreak switch was erected on the high-voltage line. Grounding connections were also improved.


WINDERMERE
HUNTSVILLE
HUNTSVILLE R.P.O.
ROSSEAU
UTTERSON
UTTERSON R.P.D.
8,000V
FALKENBURG
11,400V.
BAYSVILLE R.P.D.
BEAUMARIS
HANNA CHUTE
1,500 HORSEPOWER
BEAUMARIS R.P.D.
8,000V.
22,000V
6,600V
38,000V
5,100 HORSEPOWER
SOUTH FALLS
6,600V
2,150 HORSEPOWER
TRETHEWEY FALLS
GRAVENHURST
GRAVENHURST R.P.D.
MUSKOKA DISTRICT
SWIFT RAPIDS
WASDELLS
860 HORSEPOWER
WASDELLS FALLS
SPARROW LAKE R.P.O.
4,000V.
22,000 V.
22,000V
LONGFORD
ORILLIA
HAWKSTONE R.P.O.
22,000V
KIRKFIELD CRUSHED STONE CO.
BRECHEN
BEAVERTON R.P.D. (PART)
GAMEBRIDGE
4,000V
VICTORIA ROAD
4,000V.
BEAVERTON R.P.D. (PART)
KIRKFIELD
BEAVERTON
BEAVERTON R.P.D. (PART)
CANNINGTON R.P.O. (PART)
4,000V
WOODVILLE
CANNINGTON
CANNINGTON R.P.O. (PART)
4,000V
SUNDERLAND
PINEDALE
4,000V
MARIPOSA R.P.D.
UXBRIDGE R.P.D. (PART)
4,000V
UXBRIDGE
UXBRIDGE R.P.D. (PART)
PORT PERRY
PORT PERRY R.P.O.
WASDELLS DISTRICT

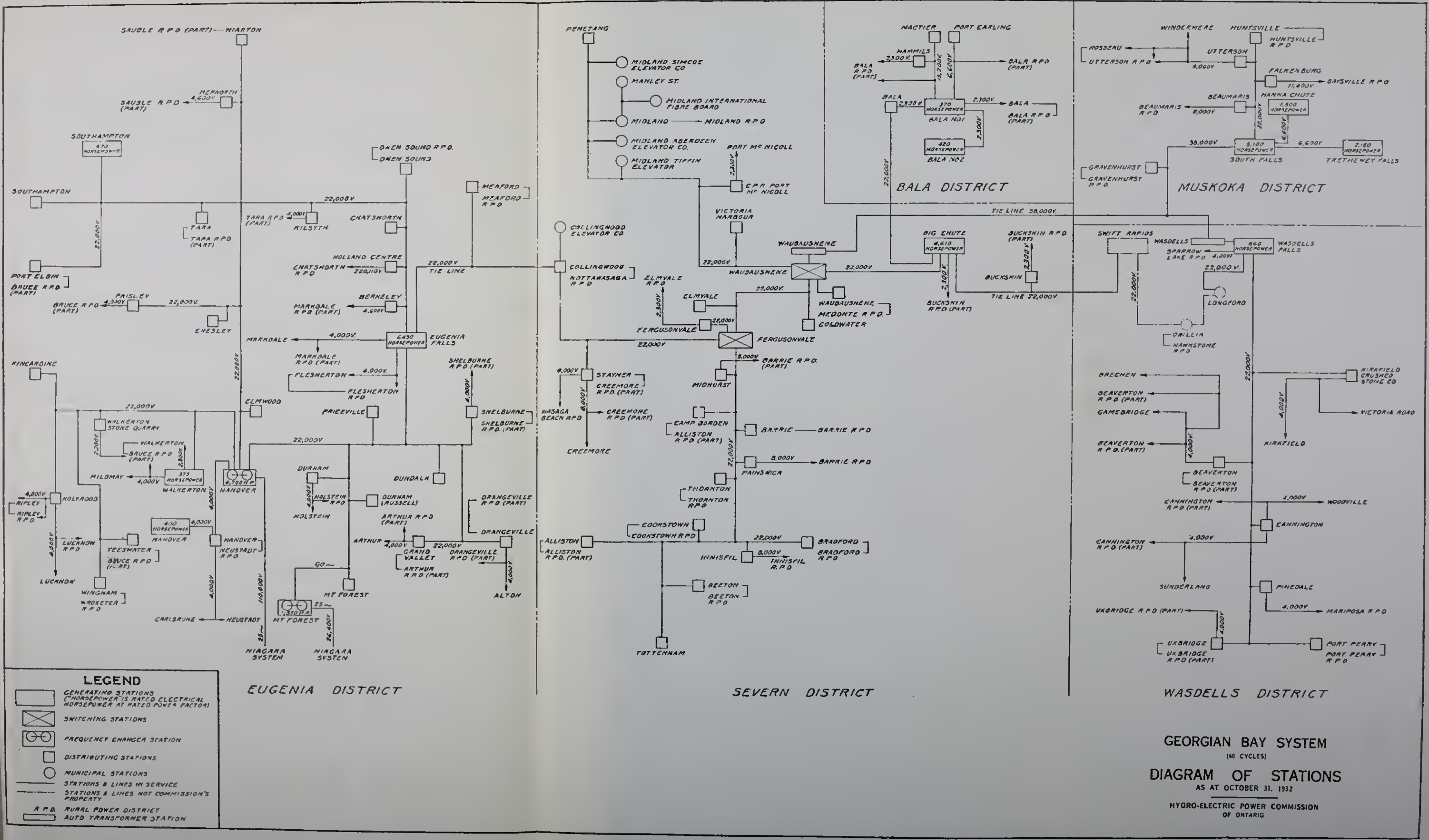
GEORGIAN BAY SYSTEM

(60 CYCLES)

DIAGRAM OF STATIONS

AS AT OCTOBER 31, 1932

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO


LEGEND
GENERATING STATIONS (*HORSEPOWER IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
SWITCHING STATIONS
FREQUENCY CHANGER STATION
DISTRIBUTING STATIONS
MUNICIPAL STATIONS
STATIONS & LINES IN SERVICE
STATIONS & LINES NOT COMMISSION'S PROPERTY
R.P.D. RURAL POWER DISTRICT
AUTO TRANSFORMER STATION
EUGENIA DISTRICT
SEVERN DISTRICT
BALA DISTRICT
MUSKOKA DISTRICT
WASDELLS DISTRICT
SAUBLE R.P.D. (PART)
WIARTON
HEPWORTH
SAUBLE R.P.D. (PART)
4,600V
SOUTHAMPTON
470 HORSEPOWER
SOUTHAMPTON
22,000V
TARA
TARA R.P.D. (PART)
KILSYTH
OWEN SOUND R.P.D.
OWEN SOUND
CHATSWORTH
HOLLAND CENTRE
CHATSWORTH R.P.D.
MEAFORD
MEAFORD R.P.D.
PORT ELGIN
BRUCE R.P.D. (PART)
PAISLEY
CHESLEY
BERKELEY
MARKDALE R.P.D. (PART)
22,000V TIE LINE
6430 HORSEPOWER
EUGENIA FALLS
MARKDALE
MARKDALE R.P.D. (PART)
FLESHERTON
FLESHERTON R.P.D.
SHELBURNE R.P.D. (PART)
SHELBURNE
KINCARDINE
ELMWOOD
PRICEVILLE
WALKERTON STONE QUARRY
WALKERTON
375 HORSEPOWER
MILDMAY
HANOVER
6,700 H.P.
DURHAM
DUNDALK
HOLYROOD
RIPLEY
RIPLEY R.P.D.
HOLSTEIN R.P.D.
HOLSTEIN
DURHAM (RUSSELL)
ORANGEVILLE R.P.D. (PART)
ORANGEVILLE
400 HORSEPOWER
HANOVER
NEUSTADT R.P.D.
LUCKNOW R.P.D.
TEESWATER
ARTHUR R.P.D. (PART)
ARTHUR
GRAND VALLEY
ARTHUR R.P.D. (PART)
LUCKNOW
WINGHAM
WROXETER R.P.D.
MT FOREST
ALTON
CARLSRUHE
NEUSTADT
1,350 H.P.
MT FOREST
NIAGARA SYSTEM
110,000V
26,400V
PENETANG
MIDLAND SIMCOE ELEVATOR CO
MANLEY ST.
MIDLAND INTERNATIONAL FIBRE BOARD
MIDLAND
MIDLAND R.P.D.
MIDLAND ABERDEEN ELEVATOR CO.
MIDLAND TIFFIN ELEVATOR
PORT Mc NICOLL
C.P.R. PORT Mc NICOLL
COLLINGWOOD ELEVATOR CO
COLLINGWOOD
NOTTAWASAGA R.P.D.
VICTORIA HARBOUR
WAUBAUSHENE
ELMVALE R.P.D.
ELMVALE
FERGUSONVALE
WAUBAUSHENE
MEDONTE R.P.D.
COLDWATER
BARRIE R.P.D. (PART)
MIDHURST
STAYNER
CREEMORE R.P.D. (PART)
WASAGA BEACH R.P.D.
CREEMORE
CAMP BORDEN
ALLISTON R.P.D. (PART)
BARRIE
BARRIE R.P.D.
PAINSWICK
THORNTON
THORNTON R.P.D.
COOKSTOWN
COOKSTOWN R.P.D.
ALLISTON
ALLISTON R.P.D. (PART)
INNISFIL
INNISFIL R.P.D.
BRADFORD
BRADFORD R.P.D.
BEETON
BEETON R.P.D.
TOTTENHAM
MACTIER
PORT CARLING
HAMMILS
BALA R.P.D. (PART)
BALA R.P.D. (PART)
BALA
370 HORSEPOWER
BALA NO 1
BALA
BALA R.P.D. (PART)
420 HORSEPOWER
BALA NO 2
BIG CHUTE
4,610 HORSEPOWER
BUCKSKIN R.P.D. (PART)
BUCKSKIN
BUCKSKIN R.P.D. (PART)
TIE LINE 22,000V
TIE LINE 38,000V
WINDERMERE
HUNTSVILLE
HUNTSVILLE R.P.D.
ROSSEAU
UTTERSON
UTTERSON R.P.D.
FALKENBURG
BAYSVILLE R.P.D.
BEAUMARIS
BEAUMARIS R.P.D.
HANNA CHUTE
1,500 HORSEPOWER
5,100 HORSEPOWER
SOUTH FALLS
2,150 HORSEPOWER
TRETHEWEY FALLS
GRAVENHURST
GRAVENHURST R.P.D.
SWIFT RAPIDS
WASDELLS
860 HORSEPOWER
WASDELLS FALLS
SPARROW LAKE R.P.D.
LONGFORD
ORILLIA
HAWKSTONE R.P.D.
BRECHIN
BEAVERTON R.P.D. (PART)
GAMEBRIDGE
BEAVERTON R.P.D. (PART)
KIRKFIELD CRUSHED STONE CO
VICTORIA ROAD
KIRKFIELD
BEAVERTON
BEAVERTON R.P.D. (PART)
CANNINGTON R.P.D. (PART)
WOODVILLE
CANNINGTON
CANNINGTON R.P.D. (PART)
SUNDERLAND
PINEDALE
MARIPOSA R.P.D.
UXBRIDGE R.P.D. (PART)
UXBRIDGE
UXBRIDGE R.P.D. (PART)
PORT PERRY
PORT PERRY R.P.D.

GEORGIAN BAY SYSTEM
(60 CYCLES)

DIAGRAM OF STATIONS
AS AT OCTOBER 31, 1932

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

At Berkeley distributing station, during a severe lightning storm on June 7, one low-voltage and two high-voltage transformer bushings were destroyed; these were replaced with new bushings.

At Kincardine distributing station, in order to provide for an increase in load due to a new power consumer, three 125-kv-a. transformers were removed and replaced with three 250-kv-a. transformers.

At John E. Russell Company distributing station, Durham, one 150-kv-a. transformer failed in service October 16, and repairs were made at the manufacturer's factory.

Walkerton rural distributing station, which is located at Walkerton generating station, was placed in service October 20, 1932. This distributing station was completed January 24, 1932, but could not be placed in service until Mildmay distribution system was changed to 4,000 volts.

At Gravenhurst and Huntsville distributing stations, improvements were made in grounding of equipment to bring grounding layouts up to standard.

GEORGIAN BAY SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Alliston	199.6	227.9	198.0	29.9	....
Arthur	130.7	128.9	132.7	....	3.8
Bala	121.0	118.0	120.0	....	2.0
Barrie	2,503.4	2,381.1	2,195.6	185.5	....
Beaverton	295.6	216.4	179.7	36.7	....
Beeton	134.7	106.6	114.3	....	7.7
Bradford	138.2	134.9	140.0	....	5.1
Brechin	59.0	56.3	45.4	10.9	....
Camp Borden	290.0	320.0	263.4	56.6	....
Cannington	155.5	161.9	152.8	9.1	....
Chatsworth	51.7	53.2	61.2	....	8.0
Chesley	406.9	407.5	464.0	....	56.5
Coldwater	290.9	257.3	234.6	22.7	....
Collingwood	1,458.3	1,339.9	1,293.8	46.1	....
Cookstown	52.5	59.0	52.9	6.1	....
Creemore	107.2	121.4	96.0	25.4	....
Dundalk	145.1	148.8	163.0	....	14.2
Durham	627.3	392.1	712.3	....	320.2
Elmvale	145.4	147.4	148.8	....	1.4
Elmwood	63.8	65.1	51.3	13.8	....

GEORGIAN BAY SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933—Continued

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Flesherton	87.0	79.8	75.9	3.9	....
Grand Valley	121.1	123.8	108.3	15.5	....
Gravenhurst	622.0	574.0	672.5	....	98.5
Hanover	1,002.7	1,042.9	910.4	132.5	....
Hepworth	24.1	24.1	25.7	....	1.6
Holstein	20.9	18.7	16.6	2.1	....
Huntsville	1,023.5	1,047.0	955.8	91.2	....
Kincardine	434.8	407.5	564.3	....	156.8
Kirkfield	31.0	28.6	22.8	5.8	....
Lucknow	222.5	187.0	222.5	....	35.5
Markdale	163.3	149.4	179.4	....	30.0
McTier	148.0	145.0	111.0	34.0	....
Meaford	431.6	394.7	395.4	....	0.7
Midland	2,723.7	3,345.6	2,408.6	937.0	....
Mildmay	63.1	66.7	71.5	....	4.8
Mount Forest	358.4	328.4	329.5	....	1.1
Neustadt	33.5	30.0	34.0	....	4.0
Orangeville	550.3	621.0	585.4	35.6	....
Owen Sound	3,202.4	3,338.5	3,077.0	261.5	....
Paisley	113.1	114.4	118.6	....	4.2
Penetanguishene	552.3	561.1	658.7	....	97.6
Port Carling	126.0	128.0	105.0	23.0	....
Port Elgin	195.7	201.8	262.5	....	60.7
Port McNicoll	99.0	90.2	83.5	6.7	....
Port Perry	211.9	179.8	156.6	23.2	....
Priceville	15.7	16.0	16.7	....	0.7
Ripley	55.4	58.9	60.3	....	1.4
Rosseau	30.0	35.1	30.0	5.1	....
Shelburne	235.8	197.9	192.9	5.0	....
Southampton	233.2	235.9	205.9	30.0	....
Stayner	193.7	203.2	169.3	33.9	....
Sunderland	59.0	63.0	60.0	3.0	....
Tara	84.1	87.7	82.2	5.5	....
Teeswater	134.8	114.9	112.4	2.5	....
Thornton	23.4	18.3	17.9	0.4	....
Tottenham	55.7	64.3	62.2	2.1	....
Uxbridge	199.8	205.8	202.2	3.6	....
Victoria Harbour	64.3	76.4	77.3	....	0.9
Victoria Road	10.3	10.0	10.0	....	....
Walkerton	492.2	419.9	463.1	....	43.2
Waubaushene	52.9	58.3	56.3	2.0	....
Wiarton	238.3	220.1	232.2	....	12.1
Windermere	25.0	31.0	33.0	....	2.0
Wingham	304.6	209.3	290.5	....	81.2
Woodville	65.1	61.0	55.2	5.8	....

NOTE: Formosa absorbed by Bruce R.P.D.
Hornings Mills absorbed by Shelburne R.P.D.

GEORGIAN BAY SYSTEM—RURAL POWER DISTRICT LOADS, 1931-1932-1933

Rural power district	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Alliston	92.2	107.1	69.3	37.8	....
Arthur	3.2	3.2	3.2	....	....
Bala	56.0	61.0	93.0	....	32.0
Barrie	196.3	220.7	233.4	....	12.7
Baysville	....	36.2	45.5	....	9.3
Beaumaris	83.1	85.8	110.0	....	24.2
Beaverton	47.2	157.3	137.6	19.7	....
Beeton	....	2.0	5.0	....	3.0
Bradford	20.0	46.7	42.8	3.9	....
Bruce	50.3	61.1	103.3	....	42.2
Buckskin	12.0	13.0	12.0	1.0	....
Cannington	41.5	44.0	35.7	8.3	....
Chatsworth	9.8	10.3	8.9	1.4	....
Cookstown	0.8	0.8	0.8	....	....
Creemore	20.1	56.2	55.0	1.2	....
Elmvale	63.2	72.4	66.3	6.1	....
Flesherton	5.5	7.3	8.0	....	0.7
Gravenhurst	32.1	37.2	27.7	9.5	....
Hawkestone	56.3	84.1	93.4	....	9.3
Huntsville	14.0	20.0	48.2	....	28.2
Innisfil	135.4	162.2	191.7	....	29.5
Mariposa	151.4	151.4	136.2	15.2	....
Markdale	2.0	20.9	33.4	....	12.5
Medonte	11.0	17.0	21.0	....	4.0
Midland	14.0	19.0	21.0	....	2.0
Nottawasaga	29.6	30.3	28.1	2.2	....
Orangeville	35.5	33.1	34.9	....	1.8
Owen Sound	8.0	10.0	53.0	....	43.0
Port Perry	103.1	121.8	141.0	....	19.2
Ripley	10.0	10.0	10.3	....	0.3
Sauble	8.0	8.8	12.3	....	3.5
Shelburne	9.6	21.1	29.3	....	8.2
Sparrow Lake	98.4	119.8	124.1	....	4.3
Tara	45.7	54.0	50.0	4.0	....
Thornton	12.0	12.7	16.3	....	3.6
Utterson	24.0	35.0	43.9	....	8.9
Uxbridge	102.5	104.5	105.1	....	0.6
Wasaga Beach	76.0	92.5	114.6	....	22.1
Wroxeter	104.2	99.5	106.2	....	6.7

NOTE: Georgina R.P.D. absorbed by Beaverton R.P.D.
Cannington R.P.D. includes what was formerly known as Cannington R.P.D. No. 1 and No. 2 districts.

EASTERN ONTARIO SYSTEM

The load on the Eastern Ontario system continued at a slightly lower level during the earlier months of the fiscal year. However, beginning with the month of April, a gradual improvement began and continued until the end of the year. The peak demand for the month of October exceeded the peaks for the corresponding months of 1931 and 1932 and almost equalled the peak of 1930 which is the maximum peak on record for this month. The kilowatt-hours used in the month of October are the maximum recorded for the month of October in any year.

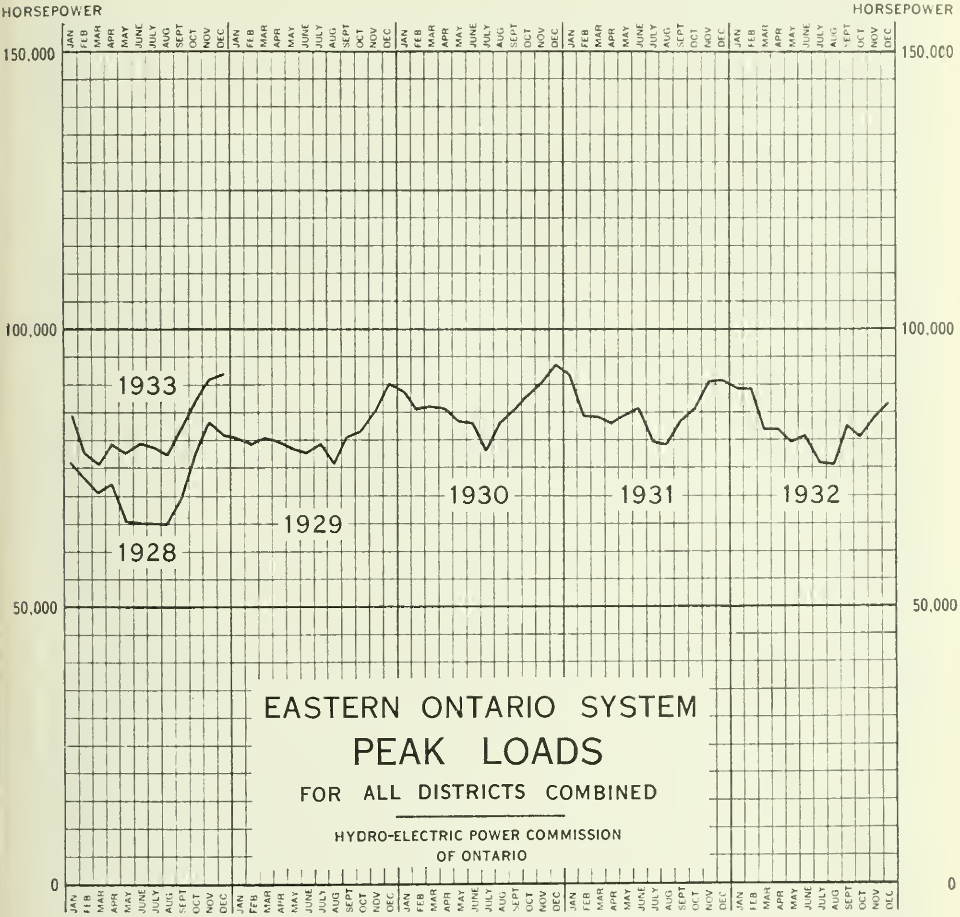
District Load Conditions

In the Central Ontario district the load showed signs of an underlying improvement about the end of February, the downward trend of the load being less than usual for the season. During subsequent months the improvement became more evident. By June the load had recovered all lost ground, and thereafter continued to exceed the loads of the corresponding months of the previous year, with a slight exception in September. The peak load for the month of October shows an increase of more than six per cent over the peak for the corresponding month of 1932.

A survey of the municipal and industrial loads in this district indicates a rising tendency during the latter months of the year. It should be noted that one large industrial customer who was taking a load of more than 3,000 horsepower in October, 1932, has not operated throughout the year 1933. If this customer is left out of consideration when analyzing the load trend in the remainder of the district, it will be evident that there has been a definite improvement in load conditions in the Central Ontario district during the latter part of 1933.

The Ottawa district load maintained approximately the same level on peak as in 1932 until early in September when the load showed a slight increase which continued into October. The monthly average loads show a slight decrease but approximate those of the two previous years. It will be noted that the monthly peak loads in this district have continued to show, with few exceptions, increases over the corresponding months of the previous years. This is primarily due to the fact that the industrial load, which has suffered the greatest losses as a result of the depression, represents only a small percentage of the total load in this district. It also indicates that the residential and commercial load has made increases which more than off-set any industrial decreases.

The St. Lawrence district load was somewhat irregular during the earlier months of the year, but was consistently higher than the 1932 peak loads after the month of March. The 1933 peak-load curve crossed the 1931 curve early in the month of July and continued to show an increase until the end of the year. The peak demand for the month of October exceeded the maximum monthly peak on record for this district.



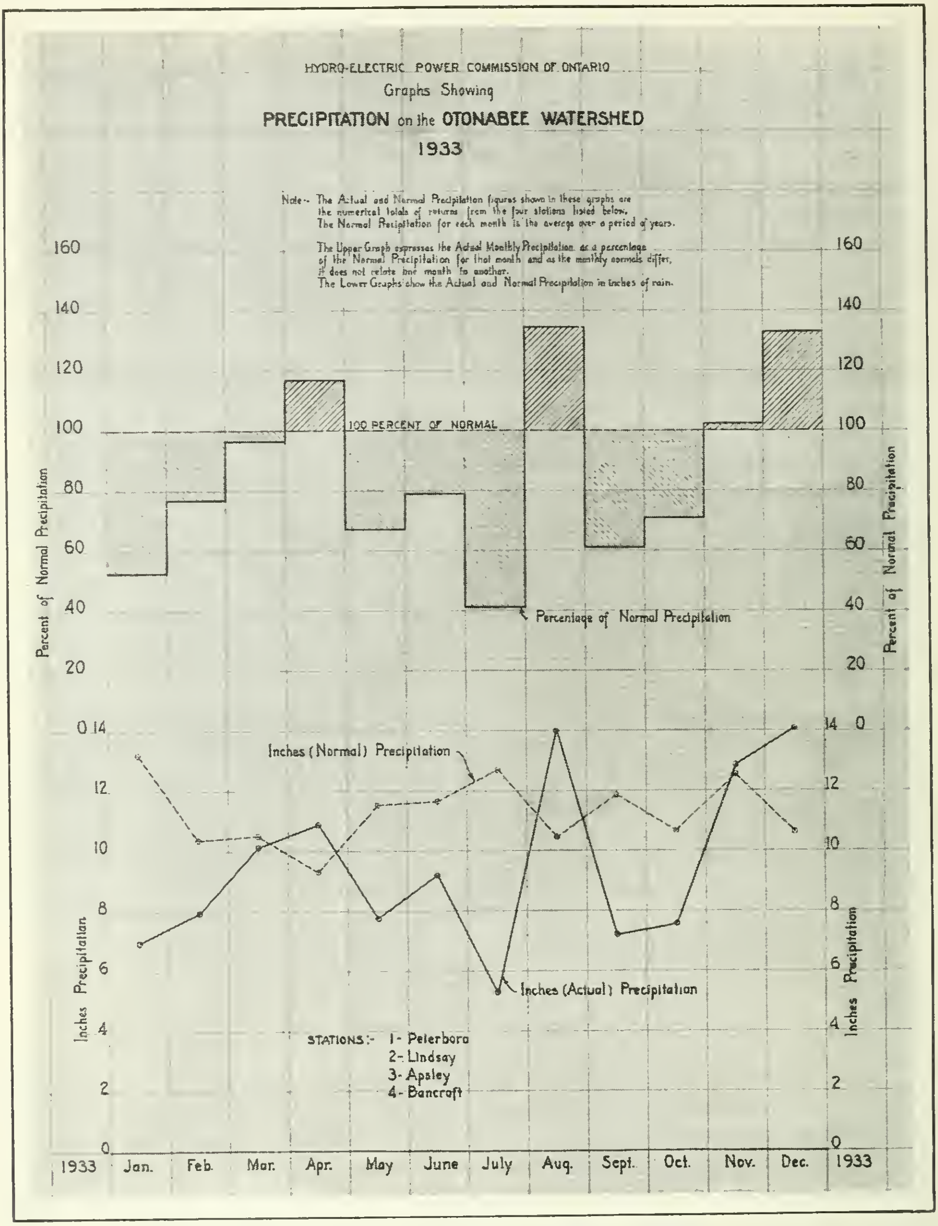
EASTERN ONTARIO SYSTEM
PEAK LOADS
FOR ALL DISTRICTS COMBINED

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

The monthly average loads on the St. Lawrence district showed a slight decrease during the months of January and February in comparison with the corresponding months of 1932, but were almost identical with those of 1931. However, the average load for the month of March exceeded the average load recorded during any previous month, and the load continued to increase until the end of the year. While certain of the municipalities and industrial customers show an increase on both peak and average load, one large industrial customer was chiefly responsible for the increase shown by the district as a whole.

The Rideau district has maintained approximately the same levels on both peak and average loads as in 1931 and 1932.

The Madawaska district load conditions were slightly below the 1932 level during the earlier months of the year but made a recovery in the early part of July and continued to show a slight increase until the end of the year.


HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO
Graphs Showing
PRECIPITATION on the OTONABEE WATERSHED
1933

Note— The Actual and Normal Precipitation figures shown in these graphs are the numerical totals of returns from the four stations listed below.
The Normal Precipitation for each month is the average over a period of years.

The Upper Graph expresses the Actual Monthly Precipitation as a percentage of the Normal Precipitation for that month and as the monthly normals differ, it does not relate one month to another.
The Lower Graphs show the Actual and Normal Precipitation in inches of rain.

STATIONS:- 1- Peterboro
2- Lindsay
3- Apsley
4- Bancroft

160
140
120
100
80
60
40
20
0
Percent of Normal Precipitation
100 PERCENT OF NORMAL
Percentage of Normal Precipitation
14
12
10
8
6
4
2
0
Inches Precipitation
Inches (Normal) Precipitation
Inches (Actual) Precipitation
1933
Jan.
Feb.
Mar.
Apr.
May
June
July
Aug.
Sept.
Oct.
Nov.
Dec.
1933

PLATE A—PRECIPITATION DATA—1933

The upper graph represents the estimated actual monthly precipitation on the Otonabee watershed expressed as a percentage of the normal precipitation.

The estimate is based upon the actual and normal return of the Meteorological Service for Peterboro, Lindsay, Bancroft and Haliburton.

Although the numerical values differ from month to month the normal precipitation is taken as 100 per cent, hence the solidly hatched areas represent the amount by which the precipitation exceeded the average while the dotted hatched area represents in a similar manner the deficiencies.

The lower graph shows the actual and normal precipitation in inches of rain

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Graph No. 3—Average daily wastage at all H.E.P.C. plants. In the weekly aggregate the area under this graph equals the wastage represented by the dotted hatched area between curves 2 and 1a.

Graph No. 5—Midnight elevations of Rice Lake.

Graph No. 6—Midnight elevations of Heely-Hastings reach.

*Operating week changed to end Sunday midnight instead of Friday midnight. The period shown ending December 1st covers two days only.

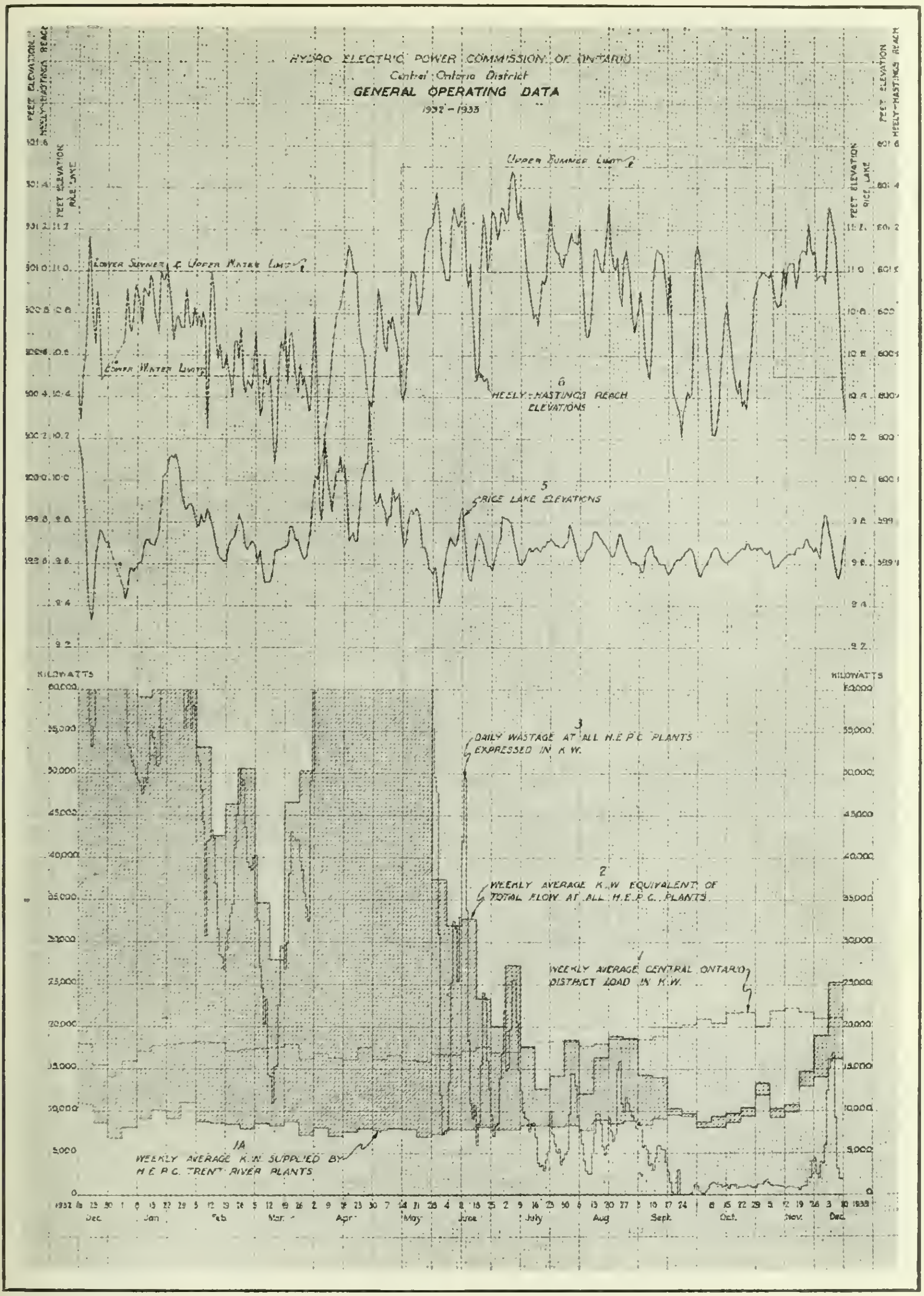


PLATE B—GENERAL OPERATING DATA

December 16, 1932, to December 20, 1933

Notes for Eastern Ontario District General Operating Data Curves

Graph No. 1—System average weekly load in kilowatts which includes power purchased from the Gatineau Power Company.

Graph No. 1a—Weekly average load in kilowatts supplied by H.E.P.C. plants on the Trent and Otonabee rivers.

Graph No. 2—Weekly average power equivalent of total flow at all H.E.P.C. Plants. This equals the weekly average load supplied by these plants, plus the power equivalent of the weekly average wastage at these plants. This wastage is shown by the dotted hatched area between curves 2 and 1a.

(*Explanation continued on page 38, facing*)

Stream Flow—Trent River

Stream flow in the Trent river, from which the Central Ontario district obtains the greater part of its power supply, showed a heavy surplus over power requirements during the first seven months of the fiscal year due to the heavy precipitation experienced in the late summer and fall of 1932, and during the first part of the winter months of 1932–33. However, from the beginning of May, 1933, until the end of October, rainfall was consistently below normal, excepting the month of August, with the result that very critical periods of low stream flow were experienced during the months of September and October. Some of the weekly average flows experienced during this time were even lower than those experienced in 1931, and represent the lowest on the Commission's records, which date back to 1916. The capacity of the Commission's generating stations on the Trent river was very seriously reduced during these periods of low stream flow. The weekly average available capacity of these generating stations during the week of minimum stream flow amounted to only 11,720 horsepower, and this, in terms of the district weekly load factor, gives a peak capacity of 18,000 horsepower, or a reduction in peak capacity of approximately 35,000 horsepower. Serious load reductions would have had to be made had not the supply of Gatineau power been available.

Generating Stations

Continuing the same plan of operation followed in 1932, as mentioned in the previous issue of this Report, Plant No. C-30 at Fenelon Falls and Plant No. C-5 at Frankford in the Central Ontario district, and Galetta generating station in the Madawaska district, were maintained throughout the year on a standby basis.

During the year the usual programme of station and line maintenance work was carried out. An outline of the work done is given in the following paragraphs.

At Sidney, plant No. C-2, the four main turbines and the exciter turbine were unwatered. Inspection indicated that no extensive maintenance work was necessary. The lower guide bearings on two of the main turbines were rebabbitted. All governors were dismantled and thoroughly cleaned; defective bearings being replaced where necessary. All the low-tension oil-breakers were overhauled. Three defective bushings were replaced on one of the generator 10,000-volt oil-breakers. The direct-current cables to all generators were replaced. All the power-house floors and the walls and ceiling of the thrust deck were painted. The entire roof of the power house was treated with a roofing compound.

At Frankford, plant No. C-5, no extensive maintenance work was found necessary. One turbine was overhauled. The low-tension electrolytic lightning arresters were overhauled. The core wall between the tail race and the river was repaired. This plant was maintained on a standby basis during the year and was only placed in operation on occasions when the additional capacity was required.

At Meyersburg, plant No. C-8, all turbines were unwatered and inspected and the racks were cleaned. The governors were overhauled and painted. All the high-tension oil-breakers were overhauled. One defective 44,000-volt bushing was replaced in the station service oil-breaker.

At Hagues Reach, plant No. C-9, all turbines were unwatered and inspected and the racks were cleaned. The bearings of one turbine were tightened. A quantity of debris was removed from the wheel pits. The governors were overhauled and painted. One of the 1,350-kv-a. 44,000-volt transformers failed in service on July 7. Tests and inspection showed that one of the high-tension coils in one phase had failed, and the complete section of winding was returned to the manufacturer for repairs. Following repairs this transformer was again placed in service on August 28. All the high-tension oil-breakers were overhauled. A defective 44,000-volt bushing was replaced on one of the station service transformers.

At Ranney Falls, plant No. C-10, the forebay was unwatered and the racks were cleaned. The governors were overhauled and painted. A new 58-volt storage battery was installed, replacing the defective battery used in connection with the supervisory remote control equipment. Current transformers were installed in the neutrals of each of the 4,500-kv-a. generators for protective purposes. The high-tension oil-breakers were overhauled. All connections to the 6,600-volt buses were overhauled. The generator room floor, steel window sash and the low-tension gallery floors were painted.

At Seymour, plant No. C-11, the forebay was unwatered and the racks were cleaned. The exciter turbine and two of the main turbines were overhauled. On one of the turbines the crown gear, countershaft and bearings had to be replaced. All the governors were overhauled. The high-tension oil-breakers and electrolytic lightning arresters were overhauled. The armature of the turbine exciter failed in service and was returned to the manufacturer where it was rewound. Disconnecting switches were installed on the bus side of two of the low-tension feeder oil-breakers.

At Heely Falls, plant No. C-14, the turbines were unwatered and inspected but no extensive maintenance work was found necessary. The glands on each turbine were repacked. The screen on the Pelton wheel of one unit was cleaned and the debris was removed from the pit of another unit. The racks in front of the penstocks were cleaned. Three new 44,000-volt side-opening disconnecting switches were installed on one of the main transformer banks. The high-tension and low-tension oil-breakers and lightning arresters were overhauled. Extensive painting was carried out on the floors, walls, ceilings and steel window sash in the control room, in the low-tension galleries and on the low-tension cell structures.

At Auburn, plant No. C-18, the forebay was unwatered and the racks were cleaned. The walls of the forebay were inspected. One turbine was overhauled. All the coils in each generator were examined and tightened. and all generators were thoroughly cleaned and painted. The low-tension electrolytic lightning arresters were overhauled.

At Fenelon Falls, plant No. C-30, the turbines were unwatered and completely overhauled. On one turbine a new set of 24 gate connecting rods was made up and installed. New pins were installed in the regulating ring. The gate stem shaft bearings were bored out and bushed, and a new gate stem shaft was installed. On the second turbine 24 new gate bolts were installed in the regulating ring and all the worn holes in the gate arms were welded. One of the 400-kv-a. generators failed in service under normal operating conditions on September 9. Approximately 60 coils were completely destroyed, 100 coils were damaged and a section of the lamination which forms the coil slots was badly burned. This generator has been in service for more than thirty years. and the cause of the failure was undoubtedly due to deterioration of the insulation on the bars. This machine will be completely rebuilt following reinsulation of all the coils by the Commission's Service Department. A broken section of the power house wall on the side next to the river was torn out and rebuilt.

At High Falls generating station on the Mississippi river the gate operating mechanism of one turbine was completely overhauled. Due to some obstruction the gate spindle in the gate house was bent when lowering the gate, but satisfactory repairs were made by the Commission's maintenance staff.

At Calabogie generating station on the Madawaska river one of the main turbines and the exciter turbine were unwatered and inspected but no extensive maintenance work was found necessary. The 33,000-volt and 6,600-volt electrolytic lightning arresters were completely overhauled. All interior and exterior woodwork was painted. The lower layer of brick along the tail race wall was renewed up to the sills of the lower windows.

At Galetta generating station on the Mississippi river, one turbine was unwatered for the purpose of making minor repairs and adjustments. The 11,000-volt electrolytic lightning arresters were overhauled.

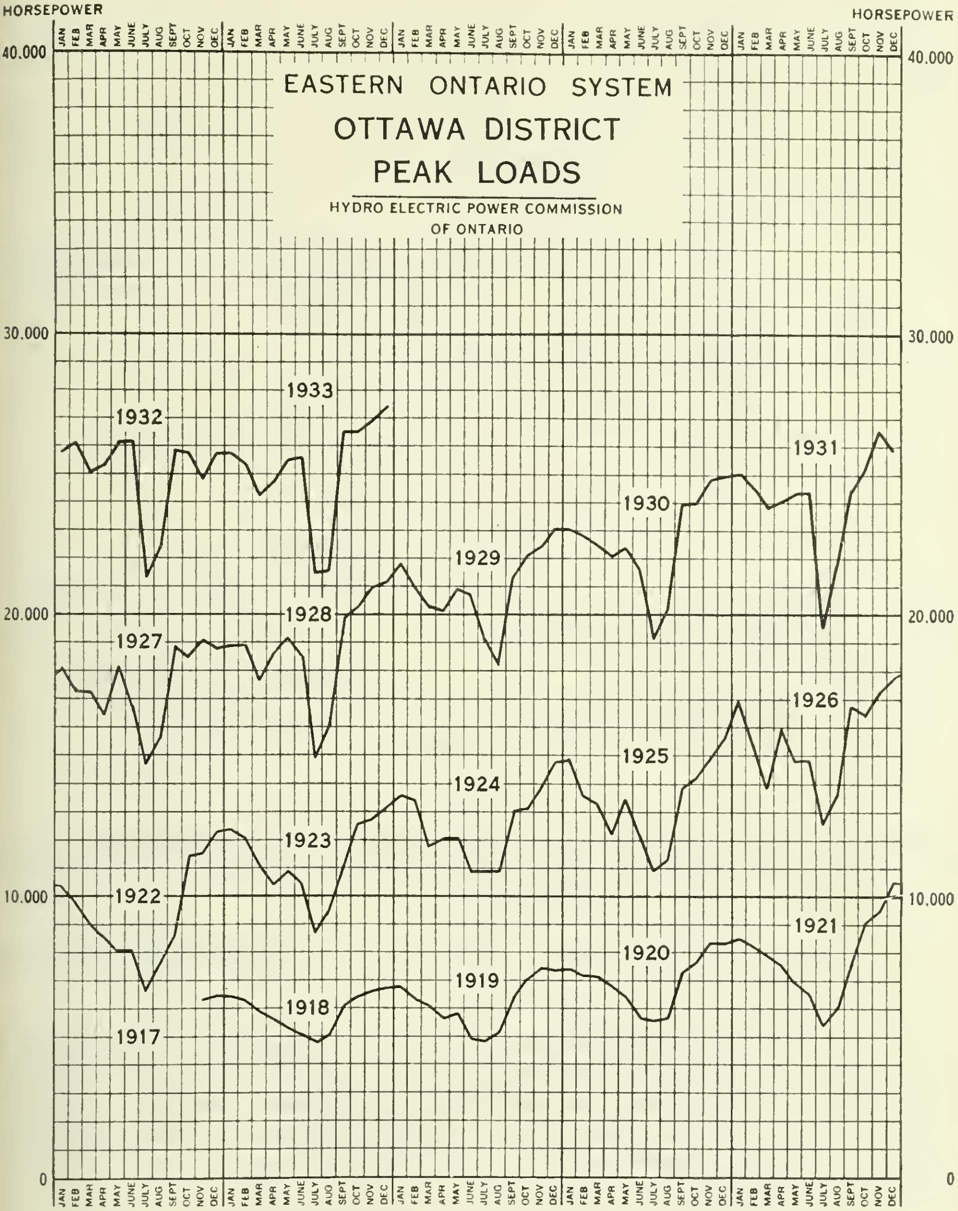
Municipal, Distributing and Switching Stations

At Auburn transformer station the high-tension oil-breakers and electrolytic lightning arresters were overhauled. One defective 44,000-volt oil-breaker bushing was replaced.

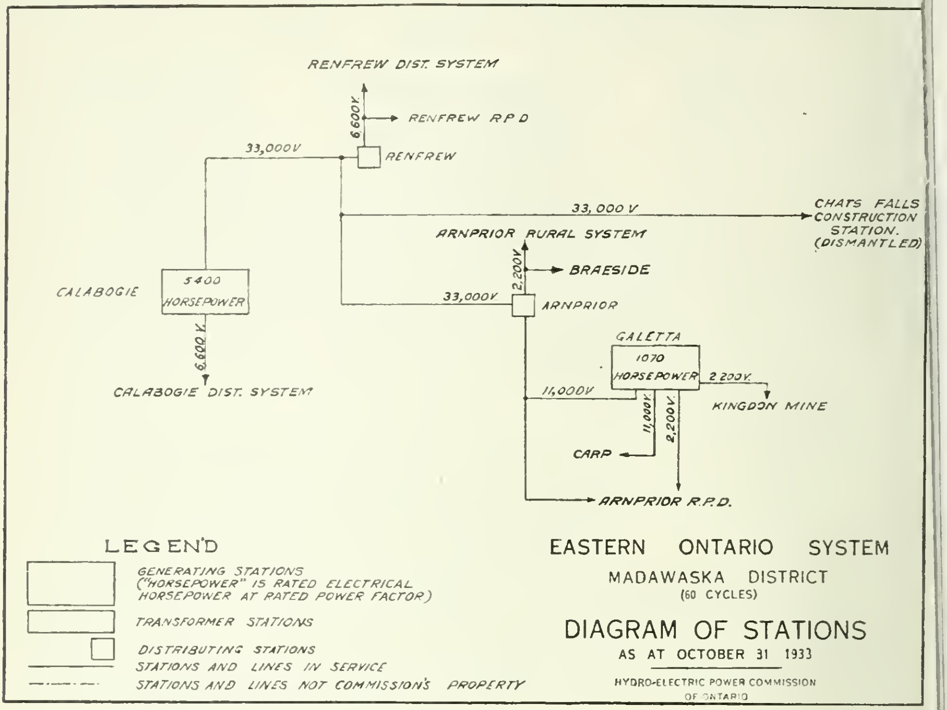
At Belleville switching station all the high-tension oil-breakers were overhauled. New fences were built enclosing the station property and the switch structures. The station site was greatly improved by grading.

At Belleville distributing station No. 1, a chain link fence was built partially enclosing the station property. The station site was improved by grading.

At Colborne distributing station new insulators were installed on the 44,000-volt lightning arrester horn gaps and new conductor was installed between the horn gaps and the 44,000-volt inlet bushings. A defective low-tension lightning arrester was replaced on the Colborne feeder.



At Cobourg distributing station the high-tension and low-tension oil-breakers were overhauled. A new 24-volt storage battery with trickle charger was installed to supply tripping potential for the high-tension and low-tension oil-breakers. A new gravity balance graphic wattmeter was installed to record the load of Cobourg and the existing solenoid type graphic wattmeter was reconnected with the necessary r-kv-a. resistances for recording the r-kv-a. load. Individual phase ammeters were installed on all the low-tension feeders and on the two transformer panels. All the electrical equipment was phase


RENFREW DIST. SYSTEM
6,600 V.
RENFREW R.P.D.
33,000 V
RENFREW
33,000 V
CHATS FALLS CONSTRUCTION STATION. (DISMANTLED)
ARNPRIOR RURAL SYSTEM
2,200 V.
BRAESIDE
CALABOGIE
5400 HORSEPOWER
33,000 V
ARNPRIOR
6,600 V.
CALABOGIE DIST. SYSTEM
GALETTA
1070 HORSEPOWER
2,200 V.
11,000 V
KINGDON MINE
11,000 V.
2,200 V.
CARP
ARNPRIOR R.P.D.
LEGEND
GENERATING STATIONS ("HORSEPOWER" IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
TRANSFORMER STATIONS
DISTRIBUTING STATIONS
STATIONS AND LINES IN SERVICE
STATIONS AND LINES NOT COMMISSION'S PROPERTY
EASTERN ONTARIO SYSTEM
MADAWASKA DISTRICT
(60 CYCLES)
DIAGRAM OF STATIONS
AS AT OCTOBER 31 1933
HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

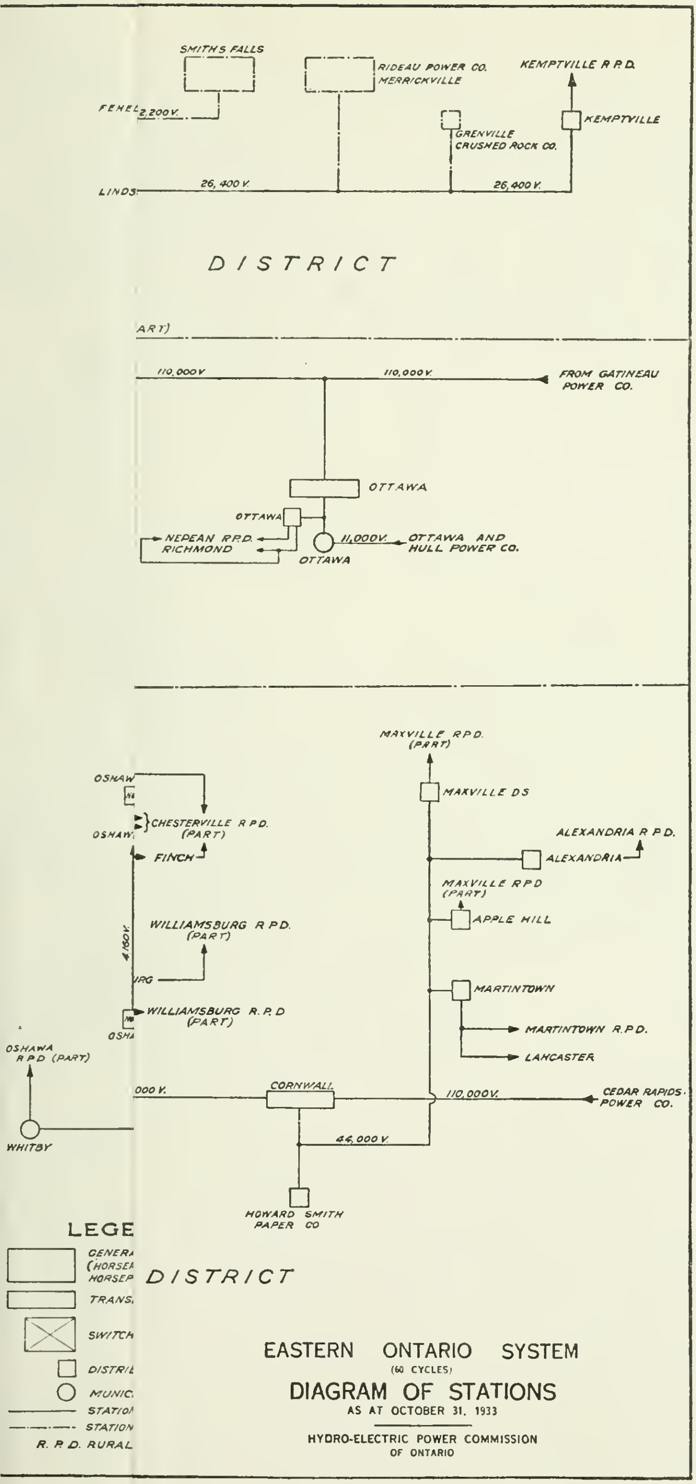
marked and the low-tension transformer connections were rearranged so as to make them standard phasing. The switchboard was rewired. The ceiling, floors, and steel window sash were painted.

At Kingston switching station the high-tension oil-breakers were overhauled on two occasions.

At Kingston distributing station the 750-kv-a. transformer was replaced by a 1,500-kv-a. transformer, increasing the capacity of this station to 4,500-kv-a. The high-tension oil-breaker was overhauled and painted. Insulating couplings were installed in the transfer device of the 44,000-volt electrolytic lightning arresters. A new ground conductor was installed between the high-tension lightning arresters and the water main.

At Madoc distributing station the high-tension and low-tension oil-breakers and the 44,000-volt electrolytic lightning arresters were overhauled. Two defective 5 kw. bucking transformers were replaced on one of the low-tension feeders. A chain link fence was built enclosing the substation.

At Maxville a new 44,000-volt 225-kv-a. distributing station was constructed and placed in service on November 20, 1932. Previous to this date Maxville and the Maxville rural power district obtained power at 4,000 volts from the 150-kv-a. transformer at Apple Hill.


SMITHS FALLS
RIDEAU POWER CO. MERRICKVILLE
KEMPTVILLE R.P.D.
FENEL
2,200 V.
KEMPTVILLE
GRENVILLE CRUSHED ROCK CO.
LINDS
26,400 V.
26,400 V.
DISTRICT
ART)
110,000 V
110,000 V.
FROM GATINEAU POWER CO.
OTTAWA
OTTAWA
NEPEAN R.P.D.
RICHMOND
11,000 V.
OTTAWA AND HULL POWER CO.
OTTAWA
MAXVILLE R.P.D. (PART)
MAXVILLE DS
OSHAW
CHESTERVILLE R.P.D. (PART)
OSHAW
FINCH
ALEXANDRIA R.P.D.
ALEXANDRIA
MAXVILLE R.P.D (PART)
APPLE HILL
WILLIAMSBURG R.P.D. (PART)
4160 V.
URG
MARTINTOWN
WILLIAMSBURG R.P.D (PART)
OSHA
MARTINTOWN R.P.D.
OSHAWA R.P.D. (PART)
LANCASTER
000 V.
CORNWALL
110,000 V.
CEDAR RAPIDS POWER CO.
WHITBY
44,000 V.
HOWARD SMITH PAPER CO
LEGE
GENERA (HORSEP HORSEP
TRANS
SWITCH
DISTRI
MUNIC
STATIO
STATION
R.P.D. RURAL
DISTRICT

EASTERN ONTARIO SYSTEM
(60 CYCLES)
DIAGRAM OF STATIONS
AS AT OCTOBER 31, 1933

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

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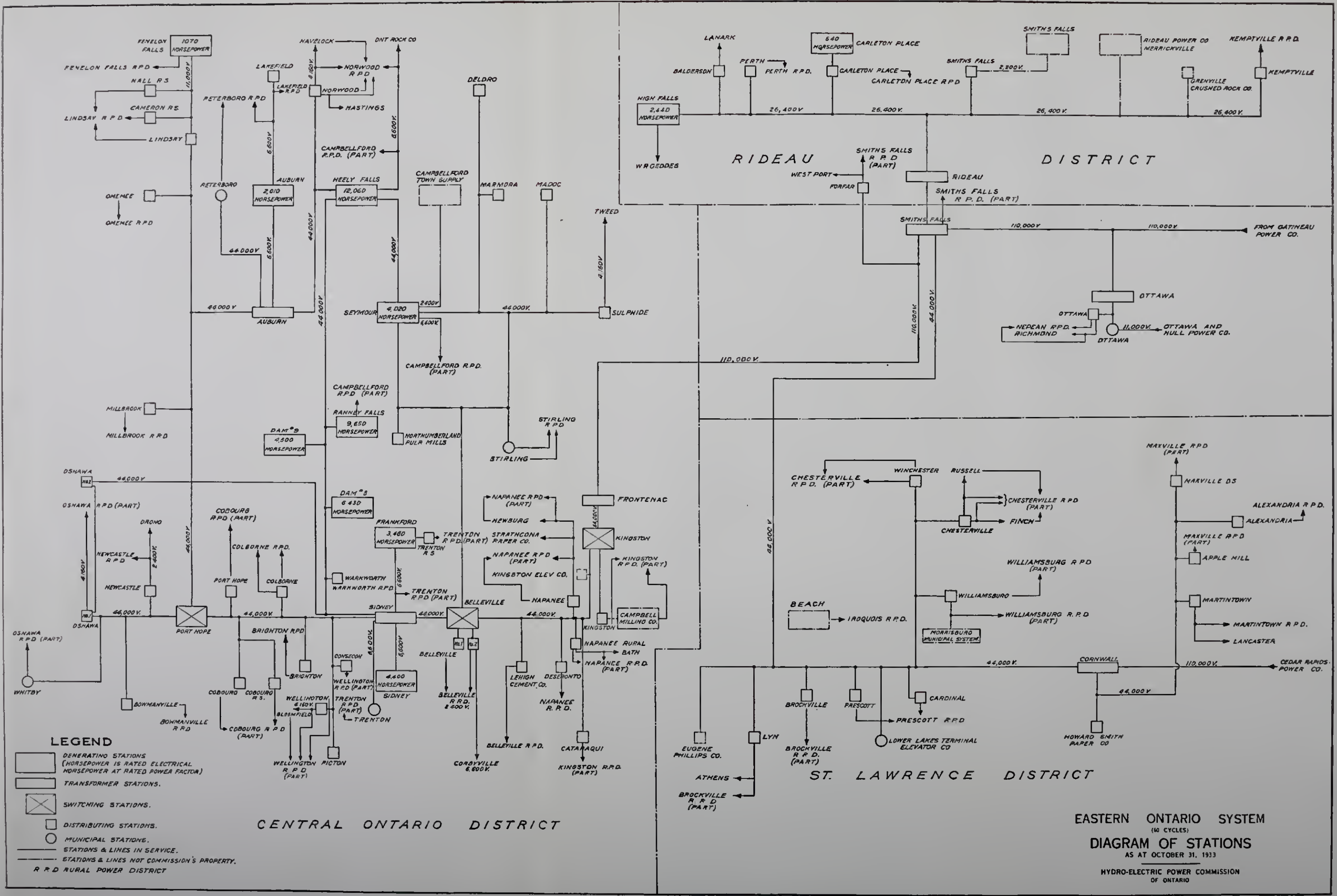

LEGEND
GENERATING STATIONS (HORSEPOWER IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
TRANSFORMER STATIONS.
SWITCHING STATIONS.
DISTRIBUTING STATIONS.
MUNICIPAL STATIONS.
STATIONS & LINES IN SERVICE.
STATIONS & LINES NOT COMMISSION'S PROPERTY.
R P D RURAL POWER DISTRICT
CENTRAL ONTARIO DISTRICT
RIDEAU DISTRICT
ST. LAWRENCE DISTRICT
FENELON FALLS
1070 HORSEPOWER
FENELON FALLS R P D
NALL R S
CAMERON R S
LINDSAY R P D
LINDSAY
11,000 V
PETERBORO R P D
LAKEFIELD
LAKEFIELD R P D
HAVELOCK
ONT ROCK CO
NORWOOD R P D
NORWOOD
HASTINGS
4160 V
6600 V
CAMPBELLFORD R.P.D. (PART)
DELORO
AUBURN
2,010 HORSEPOWER
HEELY FALLS
12,060 HORSEPOWER
CAMPBELLFORD TOWN SUPPLY
MARMORA
MADOC
TWEED
OMEMEE
OMEMEE R P D
PETERBORO
44,000 V
6,600 V
44,000 V
AUBURN
SEYMOUR
4,020 HORSEPOWER
2400 V
6,600 V
SULPHIDE
CAMPBELLFORD R.P.D. (PART)
CAMPBELLFORD R P D (PART)
RANNEY FALLS
9,650 HORSEPOWER
DAM #9
4,500 HORSEPOWER
NORTHUMBERLAND PULP MILLS
STIRLING R P D
STIRLING
MILLBROOK
MILLBROOK R P D
OSHAWA
OSHAWA R P D (PART)
NO. 2
NO. 1
DAM #8
6 430 HORSEPOWER
FRANKFORD
3,460 HORSEPOWER
TRENTON R S
TRENTON R P D (PART)
COBOURG R P D (PART)
ORONO
NEWCASTLE R P D
NEWCASTLE
COLBORNE R P D.
PORT HOPE
COLBORNE
WARKWORTH
WARKWORTH R P D
TRENTON R P D (PART)
SIDNEY
BELLEVILLE
NAPANEE R P D (PART)
NEWBURG
STRATHCONA PAPER CO.
NAPANEE R P D (PART)
KINGSTON ELEV CO.
NAPANEE
FRONTENAC
KINGSTON
KINGSTON R P D (PART)
CAMPBELL MILLING CO.
NAPANEE RURAL
BATH
NAPANEE R P D (PART)
OSHAWA R P D (PART)
WHITBY
BOWMANVILLE
BOWMANVILLE R P D
PORT HOPE
BRIGHTON R P D
BRIGHTON
CONSECON
WELLINGTON R P D (PART)
4,400 HORSEPOWER
SIDNEY
COBOURG
COBOURG R S
COBOURG R P D (PART)
WELLINGTON 4160 V
BLOOMFIELD
TRENTON R P D (PART)
TRENTON
WELLINGTON R P D (PART)
PICTON
BELLEVILLE
BELLEVILLE R P D. 2 400 V.
CORBYVILLE 6,600 V.
LEHIGH CEMENT CO.
DESERONTO
NAPANEE R. P. D.
BELLEVILLE R P D.
CATARAQUI
KINGSTON R P D (PART)
110,000 V.
LANARK
BALDERSON
PERTH
PERTH R P D.
540 HORSEPOWER
CARLETON PLACE
CARLETON PLACE R P D
SMITHS FALLS
2,200 V.
RIDEAU POWER CO MERRICKVILLE
KEMPTVILLE R P D
KEMPTVILLE
GRENVILLE CRUSHED ROCK CO.
HIGH FALLS
2,440 HORSEPOWER
26,400 V
WR GEDDES
SMITHS FALLS R P D (PART)
WEST PORT
FORFAR
RIDEAU
SMITHS FALLS R. P. D. (PART)
SMITHS FALLS
110,000 V
FROM GATINEAU POWER CO.
OTTAWA
NEPEAN R P D. RICHMOND
11,000 V.
OTTAWA AND HULL POWER CO.
110,000 V.
44,000 V
44,000 V
CHESTERVILLE R P D. (PART)
WINCHESTER
RUSSELL
CHESTERVILLE R P D (PART)
CHESTERVILLE
FINCH
MAXVILLE R P D (PART)
MAXVILLE D S
ALEXANDRIA R P D.
ALEXANDRIA
MAXVILLE R P D (PART)
APPLE HILL
WILLIAMSBURG R P D (PART)
WILLIAMSBURG
WILLIAMSBURG R. P. D (PART)
MORRISBURG MUNICIPAL SYSTEM
MARTINTOWN
MARTINTOWN R P D.
LANCASTER
BEACH
IROQUOIS R P D.
CORNWALL
CEDAR RAPIDS POWER CO.
BROCKVILLE
PRESCOTT
CARDINAL
PRESCOTT R P D
LOWER LAKES TERMINAL ELEVATOR CO
HOWARD SMITH PAPER CO
EUGENE PHILLIPS CO.
LYN
ATHENS
BROCKVILLE R P D (PART)
BROCKVILLE R P D (PART)

EASTERN ONTARIO SYSTEM
(60 CYCLES)
DIAGRAM OF STATIONS
AS AT OCTOBER 31, 1933

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

At Oshawa No. 1 distributing station the high-tension oil-breakers were overhauled on two occasions. The low-tension oil-breakers were overhauled once. All electrical equipment was phase marked. The station site was improved by grading and filling in the low areas at the back of the property. The station floors were all painted.

At Oshawa condenser station the bearings of the 5,000-kv-a. condenser were inspected and cleaned. The collector rings were ground and polished. The starting switch of the 75-h.p. motor was overhauled. A new endless belt was installed on the exciter of the 1,000-h.p. condenser. The steelwork, crane and floors were painted.

At Ottawa 110,000-volt transformer station a defective bushing was replaced on one of the 110,000-volt oil-breakers. Defective supports were replaced on the 110,000-volt bus structure. A graphic instrument was installed at this station whereby a remote record is obtained of the total power supplied to the Commission by the Gatineau Power Company under the 60-cycle contract. The instrument transformers, thermal converters, etc., used in connection with this metering equipment, are installed at the Gatineau Power Company's terminal station at Valtetreau.

At Picton distributing station defective insulators and pins were replaced on the 44,000-volt bus. The 44,000-volt air-break switch was overhauled. The transformers were inspected and painted. A coat of roofing compound was applied to the station roof. The property fence was painted.

At Port Hope switching station all the high-tension oil-breakers were overhauled on two occasions.

At Port Hope distributing station the high-tension and low-tension oil-breakers were overhauled. Defective lightning arresters were replaced on two of the low-tension feeders.

At Sidney terminal station the high-tension oil-breakers and high-tension electrolytic lightning arresters were completely overhauled. All the old pin-type insulators were replaced on the outdoor high-tension structures. The old station roofing was completely removed and replaced by three layers of three-ply felt, each layer being rolled in hot asphalt. A coat of roofing compound was applied to the roof of the lightning arrester annex. The station floors were painted.

At Smiths Falls transformer station the two 1,250-kv-a. single-phase transformers and the 1,500-kv-a. three-phase transformer which failed in service on August 27, 1932, were repaired and again placed in service on November 6, 1932. The tap leads on the remaining two 1,250-kv-a. transformers were reinsulated to prevent the possibility of similar trouble damaging these transformers.

At Williamsburg distributing station a second 100-kv-a. 44,000-volt single-phase transformer was installed and placed in service on March 15.

At Wellington distributing station the 44,000-volt air-break switch was overhauled. The 300-kv-a. transformer was thoroughly cleaned and painted. The station floor and the property fence posts were painted. A coat of roofing compound was applied to the station roof.

High-Voltage Transmission Lines

Work in connection with the inspection and maintenance of high-voltage transmission lines was actively carried out during the year. Approximately 38,000 pin-type insulators were inspected, and 1,400 were found defective and replaced. Approximately 10,000 poles were examined, of which over 900 were found defective at the ground line and were stubbed. A considerable number of poles were straightened and reset. Defective crossarms and timbers were replaced where necessary. Approximately 8,800 poles were treated with a chemical preservative. The usual programme of tree trimming and weed cutting was carried out on various high-tension line sections. Defective power and telephone conductors were replaced where necessary. A number of highway, railway and foreign wire crossings were rebuilt to conform with present-day requirements. Approximately 600 feet of defective twenty-pair telephone cable was replaced between plants No. C-9 and No. C-10. This cable is used in connection with the operation of the supervisory remote-controlled plants No. C-8 and No. C-9 which are controlled from plant No. C-10, Ranney Falls, near Campbellford.

Meter Department and Repair Shops

The usual programme of routine work in connection with the maintenance of metering and relay equipment was carried out by the Meter department. A series of special ground resistance tests were made at a number of stations with a view to improving the high-tension neutral and high-tension arrester grounds. Tests were also made on several of the station low-tension metering grounds, and on station fences, etc., with a view to removing any possible hazard due to potential gradients. Improvements were made at a number of stations through the co-ordination of the high-tension and low-tension fuses. Phase marking of high-tension lines and equipment was carried out at a number of stations.

This department is available on request to any of the municipalities in connection with the investigation of technical problems in the field.

The Belleville machine and meter repair shop has continued the usual programme of testing and repairing the various types of service meters for municipal and rural systems. A certain amount of work was also carried out in connection with repairs and replacement parts for hydraulic and electric apparatus.

EASTERN ONTARIO SYSTEM—LOADS OF MUNICIPALITIES—1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Alexandria	184.5	212.9	227.7	....	14.8
Apple Hill	28.0	30.1	32.4	....	2.3
Athens	74.2	82.4	74.4	8.0	....
Bath	....	23.4	29.2	....	5.8
Belleville	3,687.5	3,701.4	3,786.6	....	85.2

EASTERN ONTARIO SYSTEM—LOADS OF MUNICIPALITIES—1931-1932-1933 —Continued

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Bloomfield	87.8	73.4	76.1	....	2.7
Bowmanville	1,551.4	1,546.2	1,528.8	17.4	....
Brighton	284.8	270.7	279.9	....	9.2
Brockville	2,271.2	2,380.1	2,329.1	51.0	....
Cardinal	131.3	139.7	142.3	....	2.6
Carleton Place	848.5	966.5	1,030.8	....	64.3
Chesterville	197.7	191.1	159.9	31.2	....
Cobourg	1,468.6	1,424.7	1,501.3	....	76.6
Colborne	182.3	163.6	126.8	36.8	....
Deseronto	146.8	148.6	118.5	30.1	....
Finch	38.9	42.3	44.9	....	2.6
Hastings	73.7	65.2	73.9	....	8.7
Havelock	227.9	175.6	131.3	44.3	....
Kemptville	241.9	241.3	246.2	....	4.9
Kingston	4,580.0	5,105.2	5,429.6	....	324.4
Lakefield	227.7	209.7	223.8	....	14.1
Lanark	61.8	64.7	71.8	....	7.1
Lancaster	62.9	33.6	43.8	....	10.2
Lindsay	1,718.9	1,564.5	1,760.1	....	195.6
Madoc	165.7	153.6	152.1	1.5	....
Marmora	89.2	85.8	84.7	1.1	....
Martintown	26.1	21.5	21.8	....	0.3
Maxville	72.6	80.4	85.2	....	4.8
Millbrook	68.9	79.6	75.6	4.0	....
Napanee	1,015.2	935.2	978.7	....	43.5
Newburgh	41.0	42.6	45.6	....	3.0
Newcastle	82.5	64.2	101.0	....	36.8
Norwood	135.3	116.3	96.1	20.2	....
Omemee	76.6	77.4	97.7	....	20.3
Orono	58.5	78.3	78.6	....	0.3
Oshawa	7,369.9	6,494.6	6,722.5	....	227.9
Ottawa	24,841.8	25,758.6	26,208.0	....	449.4
Perth	1,069.1	1,038.9	1,135.4	....	96.5
Peterborough	6,158.4	6,011.4	6,407.7	....	396.3
Picton	887.4	871.6	869.8	1.8	....
Port Hope	1,108.0	1,081.9	1,149.1	....	67.2
Prescott	815.5	770.8	696.5	74.3	....
Richmond	39.4	45.9	47.4	....	1.5
Russell	57.9	42.6	51.1	....	8.5
Smiths Falls	1,597.9	1,509.3	1,468.4	40.9	....
Stirling	265.1	239.9	213.1	26.8	....
Trenton	2,874.1	2,745.4	2,911.1	....	165.7
Tweed	189.9	169.2	145.9	23.3	....
Warkworth	75.8	67.7	73.4	....	5.7
Wellington	205.9	191.7	167.5	24.2	....
Westport	....	65.1	69.4	....	4.3
Whitby	1,028.5	1,009.4	987.9	21.5	....
Williamsburg	69.7	142.1	198.4	....	56.3
Winchester	216.4	235.7	231.5	4.2	....

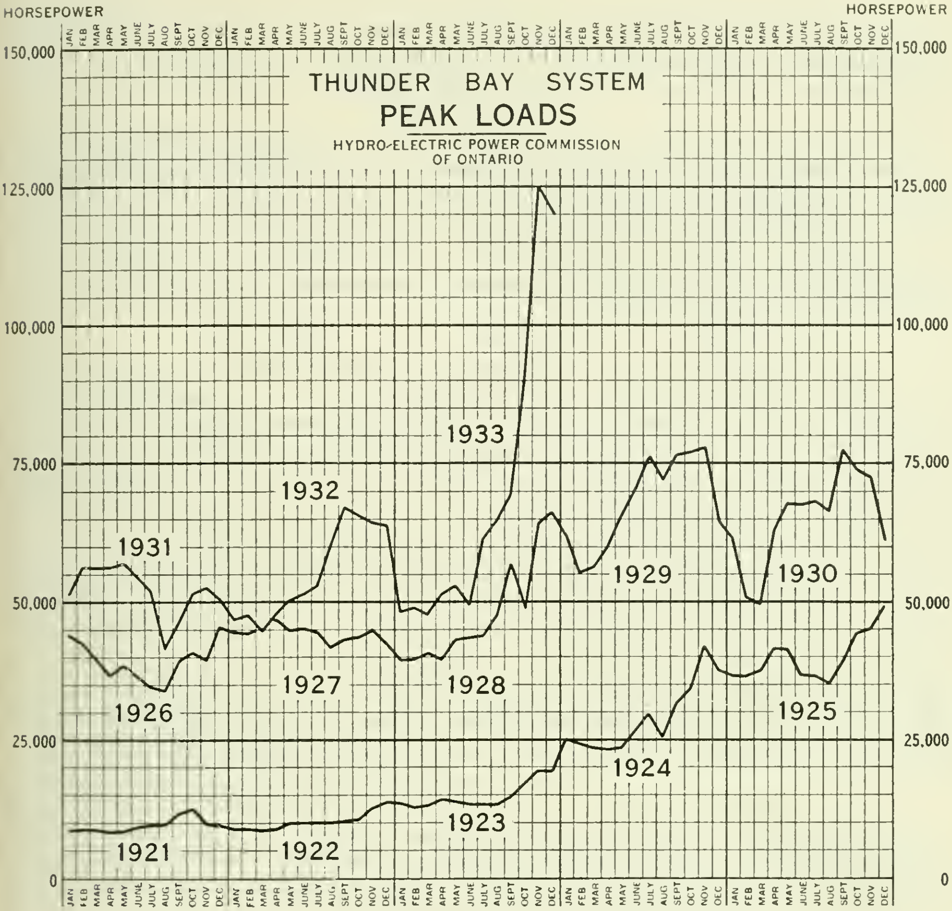
EASTERN ONTARIO SYSTEM—RURAL POWER DISTRICT LOADS, 1931-1932-1933

Rural power district	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Alexandria	25.0	30.4	31.5	....	1.1
Belleville	281.6	304.0	324.8	....	20.8
Bowmanville	160.4	97.3	106.4	....	9.1
Brighton	16.8	22.8	22.8	....	....
Brockville	269.0	288.1	298.2	....	10.1
Campbellford	58.9	67.3	69.5	....	2.2
Chesterville	184.5	186.2	184.3	1.9	....
Cobourg	220.3	242.9	270.7	....	27.8
Colborne	77.0	94.2	120.0	....	25.8
Fenelon Falls	20.0	47.2	52.5	....	5.3
Iroquois	415.5	445.0	428.1	16.9	....
Kemptville	13.4	18.1	19.3	....	1.2
Kingston	265.7	296.2	323.7	....	27.5
Lakefield	10.0	32.7	34.3	....	1.6
Lindsay	4.0	10.0	16.4	....	6.4
Martintown	62.5	53.4	47.4	6.0	....
Maxville	118.4	156.0	156.6	....	0.6
Millbrook	31.9	34.3	36.3	....	2.0
Napanee	145.8	177.2	213.9	....	36.7
Nepean	563.8	624.3	590.6	33.7	....
Newcastle	61.7	72.6	63.6	9.0	....
Norwood	21.0	27.9	22.9	5.0	....
Omemee	3.0	3.0	2.0	1.0	....
Oshawa	667.1	677.0	626.2	50.8	....
Perth	3.0	21.4	34.8	....	13.4
Peterborough	476.4	420.4	391.1	29.3	....
Prescott	92.0	109.8	106.4	3.4	....
Stirling	46.2	48.1	46.2	1.9	....
Smiths Falls	211.0	151.8	183.7	....	31.9
Trenton	139.0	127.5	204.7	....	77.2
Warkworth	3.0	3.0	3.0	....	....
Wellington	169.7	194.6	175.6	19.0	....
Williamsburg	32.8	52.8	73.3	....	20.5

THUNDER BAY SYSTEM

The load on the Thunder Bay System during the past fiscal year has shown a slight increase over that of the previous year. A large amount of power has been sold for the generation of steam electrically with the result that the average monthly energy generated showed an increase of 16.1 per cent and the average monthly peak an increase of 11.8 per cent over 1932. Excluding this steam load, the average monthly energy generated was 5.9 per cent greater and the average monthly peak 1.8 per cent higher in 1933 than in 1932.

The Nipigon Corporation Pulp Mill at Nipigon has not been operating during the year, but the station has been maintained alive, Nipigon township being supplied from this point.



Two new loads have been added to the system during the year. A bank of three 400 kv-a. transformers was placed in service at Cameron Falls generating station in September, supplying power to Northern Empire Mines at Empire, Ontario, over its 33,000-volt transmission line. On October 2, two 8,000-kw. electric steam-generators and auxiliary equipment at the Great Lakes Paper Company were placed in service. Power is supplied to this steam station over a short section of 110,000-volt line, which is tapped off the line to the main substation of this company.

Hydraulic maintenance work has been carried on at Cameron Falls generating station during the year, the major items being the repairing of the eroded areas of No. 3 and No. 6 turbines by welding the runners. As in former years, special attention has been given to the testing and adjustment of governors. During September a rather extensive programme of repairs to retaining walls and other concrete structures was begun. This work, however, is only about 20 per cent complete at the year end. The auxiliary hydraulic equipment has been maintained in first class condition.

No major maintenance work has been carried out on any of the generators at Cameron Falls generating station during the year. All power transformers at this station have operated satisfactorily, routine maintenance work only being required. The spare transformer, however, was completely overhauled.

Alexander generating station has given very satisfactory operating service, no major maintenance work being required on any equipment throughout the year. This station is supervisory controlled from Cameron Falls generating station. A few troubles have been experienced with this control equipment, but on the whole it has operated satisfactorily. The automatic synchronizer, which is used in connection with this supervisory control, has given excellent service throughout the year.

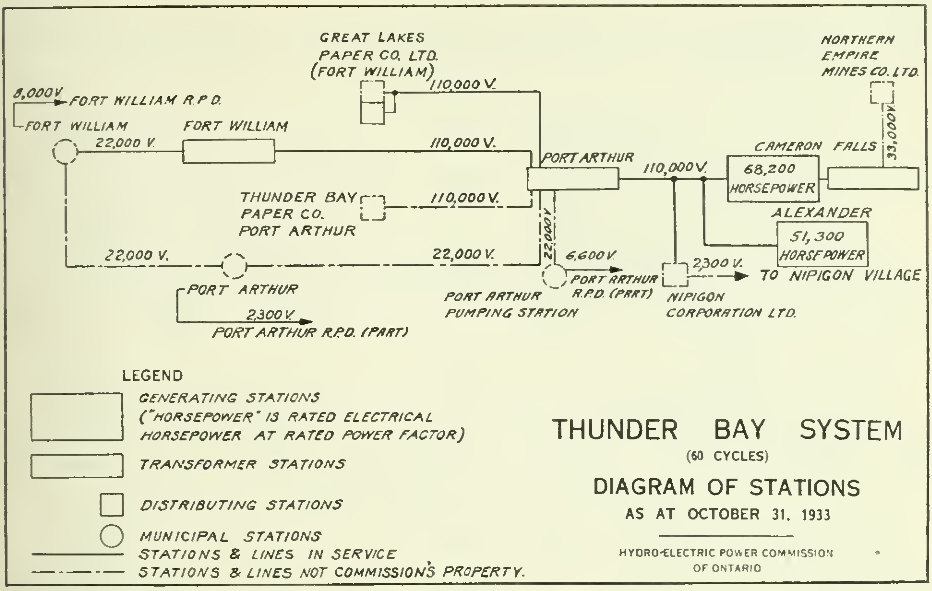
The service obtained from the transmission lines during the year has been very good. There have been no total system interruptions, although Port Arthur Fort William, Great Lakes Paper Co., and Thunder Bay Paper Co., were interrupted for 2½ minutes on one occasion when No. 2 and 3 lines tripped out at both ends and No. 1 line tripped out at Port Arthur during an electrical storm, leaving No. 1 line alive to feed Nipigon Corporation. In addition to this, Great Lakes Paper Co. suffered four interruptions of short duration, two due to accidental operation of oil-breaker 2P1G during wiring alterations for new relays at Port Arthur transformer station, and two due to flashovers during electrical storms. Fort William experienced one two-minute interruption when a bird caused a transmission line flashover. Flashovers during electrical storms were responsible for two interruptions, one of 21 minutes and the other of 7 minutes duration, to Nipigon Corporation station. The service to Northern Empire Mines was interrupted on two occasions due to trees falling across the line.

Special attention has been given to testing the line insulators and replacing those found faulty. Also, the line conductors were closely inspected for broken or loose strands and these were repaired where necessary. Some other maintenance work has been done on the wood-pole lines in tightening guys, etc. Brush was cut along certain sections of the right-of way.

The Port Arthur transformer station has had no curtailment of service to any customers due to failures of equipment. New relay equipment was placed in service on all 110,000-volt lines, both incoming and outgoing, at this station. While sufficient time has not yet elapsed to make a definite statement regarding the improvement to service, the time of operation of the breaker equipment has been materially reduced, resulting in faster clearances of faults and hence less disturbance to the system. Routine inspection and maintenance of the 110,000-volt oil-breakers and transformers has been carried on throughout the year. Connections to the three 110,000-volt lines were altered so that two or three lines could be fed through one oil-breaker, thus enabling the other oil-breakers to be taken out of service for maintenance purposes.

The Fort William transformer station has had no failure of equipment or incorrect functioning of relays or breakers. Routine maintenance work only was required at this station.

The precipitation in the watershed supplying this system has been relatively heavy during the year, approximately 28 inches being recorded. With the light


GREAT LAKES PAPER CO. LTD. (FORT WILLIAM)
110,000 V.
NORTHERN EMPIRE MINES CO. LTD.
8,000 V.
FORT WILLIAM R.P.D.
FORT WILLIAM
FORT WILLIAM
22,000 V.
110,000 V.
CAMERON FALLS
33,000 V.
PORT ARTHUR
110,000 V.
68,200 HORSEPOWER
THUNDER BAY PAPER CO. PORT ARTHUR
110,000 V.
ALEXANDER
22,000 V.
51,300 HORSEPOWER
22,000 V.
22,000 V.
6,600 V.
2,300 V.
TO NIPIGON VILLAGE
PORT ARTHUR
PORT ARTHUR R.P.D. (PART)
PORT ARTHUR PUMPING STATION
NIPIGON CORPORATION LTD.
2,300 V.
PORT ARTHUR R.P.D. (PART)
LEGEND
GENERATING STATIONS ("HORSEPOWER" IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
TRANSFORMER STATIONS
DISTRIBUTING STATIONS
MUNICIPAL STATIONS
STATIONS & LINES IN SERVICE
STATIONS & LINES NOT COMMISSION'S PROPERTY.
THUNDER BAY SYSTEM
(60 CYCLES)
DIAGRAM OF STATIONS
AS AT OCTOBER 31, 1933
HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

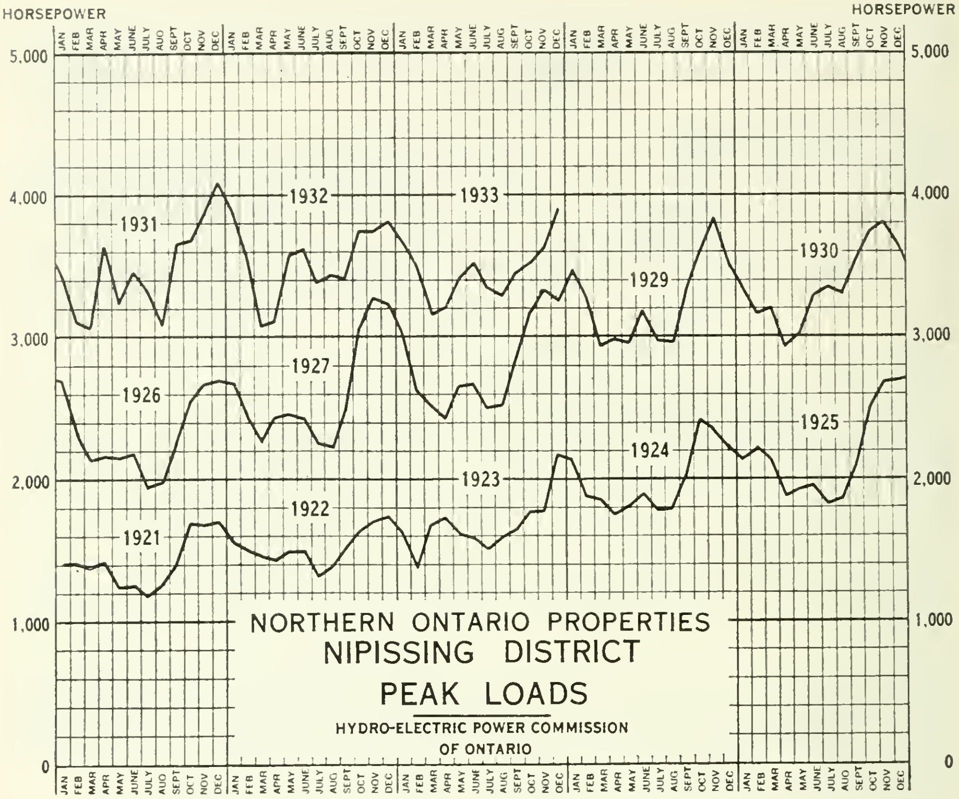
load on the system and the heavy precipitation it was found necessary to waste a considerable amount of water at both plants during the greater part of the year. Notwithstanding the high river flow, the level of lake Nipigon has been raised about 6 inches during the year.

THUNDER BAY SYSTEM—LOADS OF MUNICIPALITIES, 1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Fort William	11,451.7	10,916.7	10,932.0	....	15.3
Nipigon Township	70.3	83.0	101.1	....	18.1
Port Arthur	27,024.4	35,195.1	33,205.5	1,989.6	....

THUNDER BAY SYSTEM—LOADS OF RURAL POWER DISTRICTS

Rural power district	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
Fort William	....	35.0	80.0	....	45.0
Port Arthur	....	23.7	33.2	....	9.5



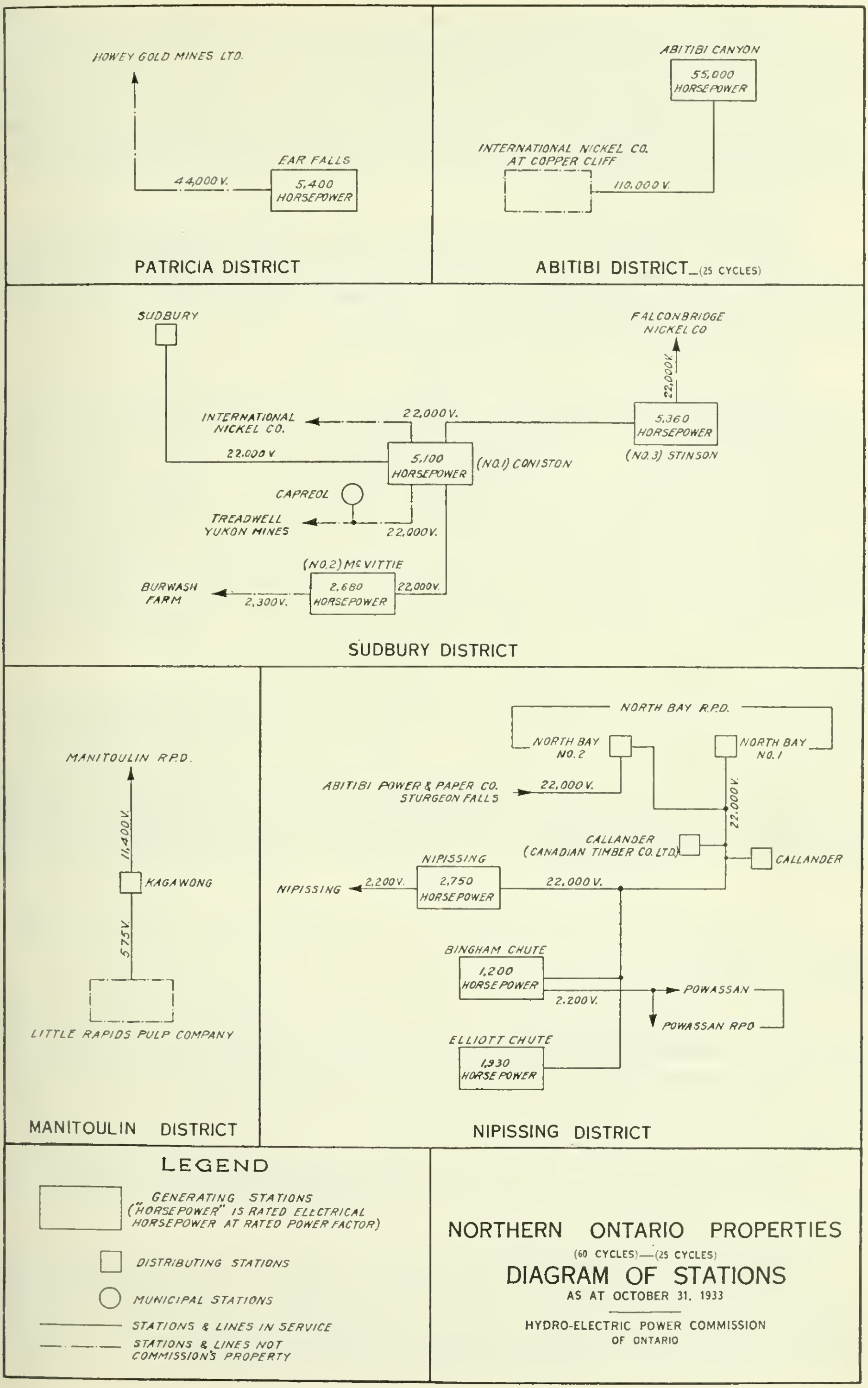
NORTHERN ONTARIO PROPERTIES

Nipissing District

Although the generated peak and average loads on the Nipissing district show slight increases for some months over the corresponding months of the previous year, a small decrease in load is shown when the records for the entire year are compared with those of the previous year.

The greater storage facilities provided during recent years permitted the retention in storage of more water during the spring flood period than in previous years, with the result that river flow has been satisfactorily maintained despite an unusually dry summer.

The chief item in the line maintenance programme for the year was the replacement of all defective poles, crossarms, insulators and insulator pins on the Callander to North Bay, Bingham Chute junction to Callander, and Elliott Chute junction to Bingham chute junction sections. All line crossings over railways or foreign wires which were found to be substandard, were brought up to the standards required by the Board of Railway Commissioners.


HOWEY GOLD MINES LTD.
EAR FALLS
44,000 V.
5,400 HORSEPOWER
PATRICIA DISTRICT
ABITIBI CANYON
55,000 HORSEPOWER
INTERNATIONAL NICKEL CO. AT COPPER CLIFF
110,000 V.
ABITIBI DISTRICT—(25 CYCLES)
SUDBURY
FALCONBRIDGE NICKEL CO
22,000 V.
INTERNATIONAL NICKEL CO.
22,000 V.
5,360 HORSEPOWER
(NO.3) STINSON
22,000 V.
5,100 HORSEPOWER
(NO.1) CONISTON
CAPREOL
TREADWELL YUKON MINES
22,000 V.
(NO.2) McVITTIE
BURWASH FARM
2,300 V.
2,680 HORSEPOWER
22,000 V.
SUDBURY DISTRICT
MANITOULIN R.P.D.
11,400 V.
KAGAWONG
575 V.
LITTLE RAPIDS PULP COMPANY
MANITOULIN DISTRICT
NORTH BAY R.P.D.
NORTH BAY NO. 2
NORTH BAY NO. 1
ABITIBI POWER & PAPER CO. STURGEON FALLS
22,000 V.
22,000 V.
CALLANDER (CANADIAN TIMBER CO. LTD.)
CALLANDER
NIPISSING
NIPISSING
2,200 V.
2,750 HORSEPOWER
22,000 V.
BINGHAM CHUTE
1,200 HORSE POWER
2,200 V.
POWASSAN
POWASSAN RPD
ELLIOTT CHUTE
1,930 HORSE POWER
NIPISSING DISTRICT
LEGEND
GENERATING STATIONS ("HORSEPOWER" IS RATED ELECTRICAL HORSEPOWER AT RATED POWER FACTOR)
DISTRIBUTING STATIONS
MUNICIPAL STATIONS
STATIONS & LINES IN SERVICE
STATIONS & LINES NOT COMMISSION'S PROPERTY

NORTHERN ONTARIO PROPERTIES

(60 CYCLES)—(25 CYCLES)

DIAGRAM OF STATIONS

AS AT OCTOBER 31, 1933

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

At Nipissing generating station, new Niagara bronze runners were installed in each of the two turbines to replace the cast iron runners which had eroded to an extent that made economical repairs impossible. Minor repairs and adjustments to both turbines were also undertaken. Considerable painting was done on buildings and equipment as a protective measure. The design of the pistons in the governor oil pumps was changed to eliminate the oil leakage permitted by the old design.

A number of leaks in the wood-stave pipe line were stopped by covering each leak with a layer of tarred felt held in place by a steel plate pre-formed to the curvature of the pipe and inserted under the pipe bands. Several of the pipe line supporting saddles were also renewed.

At Bingham Chute generating station, very little maintenance work was found necessary on the turbines. Renewal of gate link pins on No. 2 unit, renewal of lignum vitae bearings and adjustment of journal bearings on both units were undertaken. One 300-kw. power transformer at this station failed in service due to development of a leak in the bronze cooling coils. Repairs were made to the winding, the defective coils were replaced with new copper coils, and the old oil, which was known to be slightly high in acid content, was replaced with new oil. Renewal of coils and oil in the remaining two transformers in the three-phase bank is being undertaken to safeguard against similar failures in these units. The choke coils were removed from the 22,000-volt structure. Earth resistances were measured and station grounding improved.

The chief operator's cottage at this station was completely redecorated.

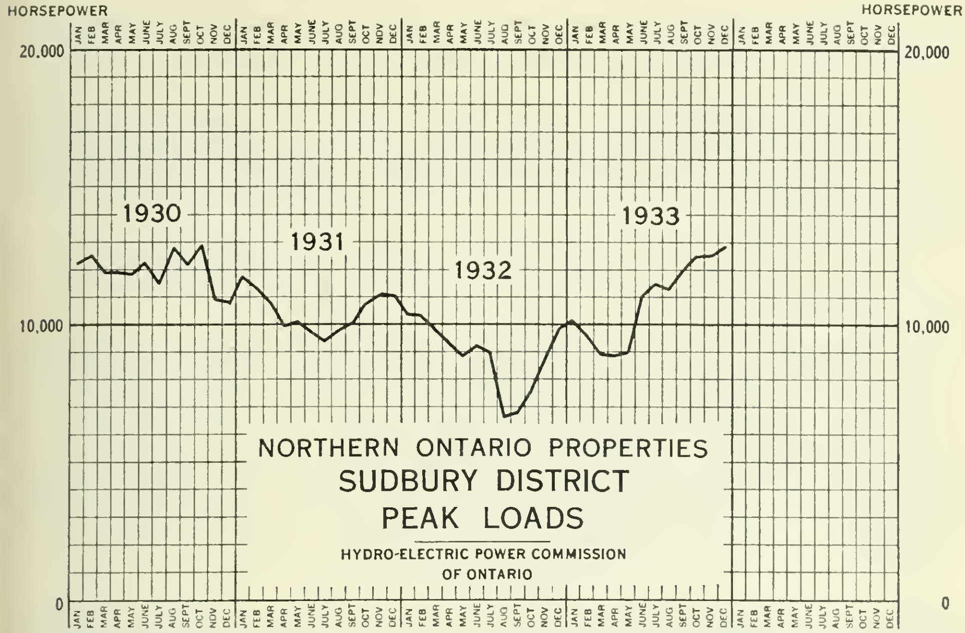
At Elliott Chute generating station, only routine turbine maintenance work was required. A new spring type flexible drive for the generator overspeed device was installed to replace the original drive which has failed on several occasions.

A woven wire fence was erected along the roadway on the southern boundary of the property.

The decayed plank facing of the rock-filled woodcrib breakwater at this station was renewed with 1-inch plank and covered with one-eighth-inch steel plates from salvage. The frame store-house was raised and placed on concrete posts. The west end of the earth fill dam was surfaced with 30 yards of gravel.

At the Canadian Timber Company substation in Callander, one high-tension transformer bushing failed in service and was replaced with a new bushing.

Megger tests on practically all electrical equipment were made throughout the year, initiating a programme of periodical megger tests to obtain indications of insulation deterioration by comparison of results of tests taken at intervals over a period of time. The programme of progressive grading of insulators, instituted last year, was continued through the current year.


NORTHERN ONTARIO PROPERTIES
SUDBURY DISTRICT
PEAK LOADS
HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

Sudbury District

The generated peak and average loads on the Sudbury district showed a marked decrease for the first six months of the current fiscal year as compared to corresponding months of the previous year. Owing to improved conditions in the nickel industry, however, a decided upward trend, which started in May, 1933, has continued throughout the remainder of the year. The extent of this improvement is illustrated by the fact that in October, 1933, the generated peak load showed an increase of 65 per cent and the generated average load an increase of 91 per cent over the corresponding month of 1932.

The level of Wahnapitae lake was lowered approximately four feet below the normal operating level during the summer months to accommodate certain mining properties bordering on the lake. This action together with the subnormal precipitation of the past summer demanded more than usual care in the regulation of river flow and division of load between generating stations in order to obtain the maximum efficiency in the use of storage water.

Line maintenance work in the district was confined to insulator testing, replacement of defective insulators, butt treatment of poles where necessary and similar details of a routine nature.

At Coniston generating station, No. 2 turbine was completely overhauled. This work included the installation of alemite fittings to facilitate greasing of bearing surfaces between gates and gate bolts and between speed rings and operating rings. A new gear quadrant was installed on the gate operating mechanism. New gate links, link pins, and link bushings were supplied where required.

Four new timber head-gates were constructed and installed to replace the head-gates which had become unsafe through deterioration of the timbers.

The generating station air compressor was moved to a new and more convenient situation. Repairs were made to the roofs of the store-house, generating station, transformer house and penstock house. The generating station floor, boarding-house interior woodwork and store-house and transformer house trim were painted.

The road between the generating station and the highway was widened and surfaced with gravel.

To improve frequency regulation and time service a synchronome, having a synchronous motor driven clock and an accurate mechanical clock movement with dials to indicate the variation between times as computed by the two types, was installed at Coniston generating station. A radio receiving set for the reception of time signals was also installed to permit accurate setting of the mechanically operated movement. With the synchronome indication as a guide the staff has been able to regulate system frequency much more closely than heretofore.

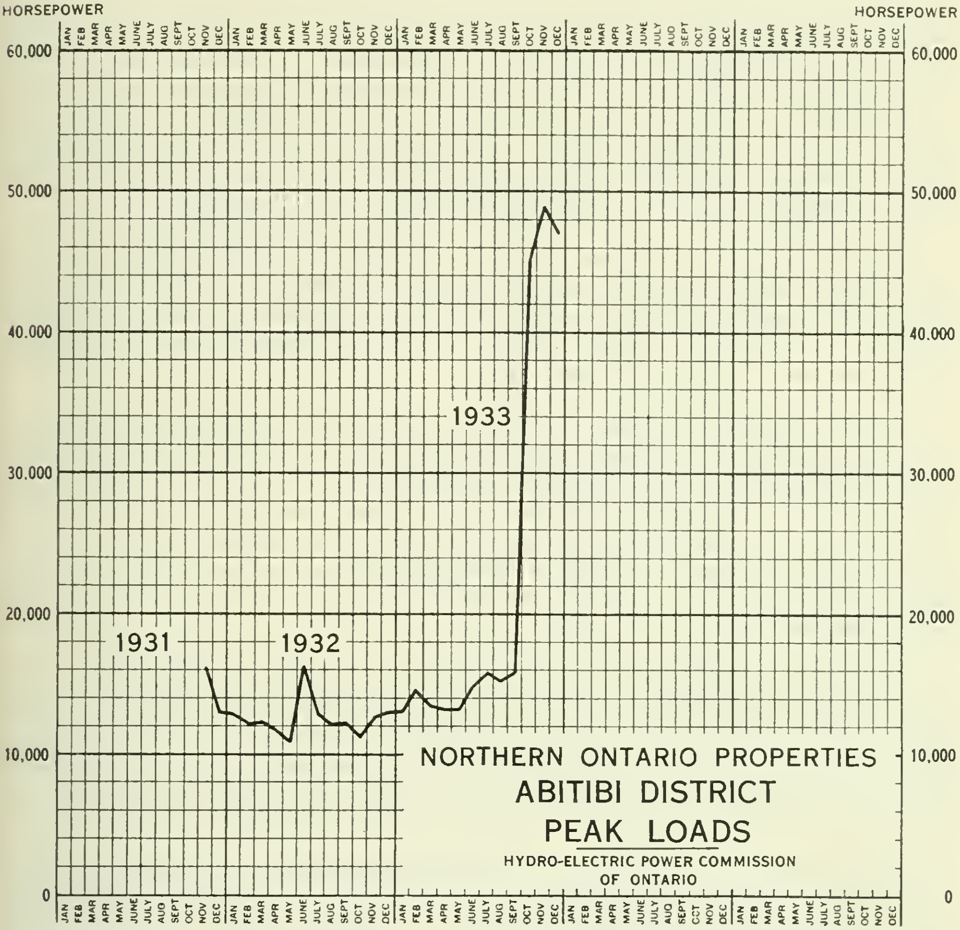
At McVittie generating station, the armature of No. 1 generator failed in service on four occasions and the armature of No. 2 generator failed once during the year. Failures in all cases were due to lightning surges which are assumed to have entered the station on a 2,200-volt feeder. These generators have been in service for more than twenty years and the repeated failures were attributed largely to deterioration of the windings with age. A complete new winding has been installed in No. 1 generator to eliminate further costly failures.

Mechanical maintenance work at this station was confined to small items such as the renewal of the lignum vitae bearing and the replacement of a defective thrust nut on the exciter turbine, governor adjustments, and repairs to two bearing pedestals in which cracks had developed. A set of disconnecting switches was installed to permit isolation of the high-tension arresters. Station grounding was improved and tested. Extensive painting inside the generating station was undertaken.

At Stinson generating station, the two 3,500-horsepower turbines were completely overhauled. Each unit was equipped with alemite fittings to facilitate greasing the bearing surfaces between gates and gate bolts and between speed rings and operating rings. A brake was installed on each unit whereby the unit can be quickly stopped by application of pressure to the periphery of the flywheel.

Following the failure of one of the timber head-gates at this station, two new head-gates of heavier design were installed to replace the originals. A pipe railing was erected on the lower side of the path between generating station and head block as a safety measure.

The exterior walls of the penstock building were painted and one coat of roofing paint was applied to the roof. Rust was removed from the penstocks and the cleaned surface painted, where required. Considerable painting was undertaken inside the station.



Abitibi District

On the Abitibi district the peak and average loads for the first eight months of the fiscal year were, in general, slightly higher than for the corresponding months of the previous year. Improved conditions in the nickel industry were responsible for a decided load increase during the next three months, and during the final month of the fiscal year the load was greatly increased by the addition of the Abitibi Power and Paper Company's steam-generation load at Iroquois Falls.

Until the No. 1 unit at Abitibi Canyon generating station was first placed in service, power was purchased from the Abitibi Electric Development Company's generating station at Island Falls for transmission to Copper Cliff to serve the International Nickel Company at that point. This power was transmitted from Island Falls to Hunta, 14 miles west of Cochrane, over the Abitibi Electric Development Company's circuit and from Hunta to Copper Cliff, a distance of 189 miles, over the Commission's double-circuit steel-tower line.

On May 24, the Copper Cliff load was transferred from Island Falls generating station to the Abitibi Canyon generating station, thus marking the initial delivery of commercial power from the latter station. A double-circuit steel-tower line from Abitibi Canyon generating station is connected at Hunta to the aforementioned double-circuit steel-tower line from Hunta to Copper Cliff, making a total transmission distance from Abitibi Canyon to Copper Cliff of 246 miles. A single circuit only is used to supply Copper Cliff at the present time but the second circuit is kept available for service as a standby.

On October 23, the initial delivery of power was made to the Iroquois Falls mill of the Abitibi Power and Paper Company, for purposes of steam generation. This power is transmitted over the Commission's lines from Abitibi Canyon to Hunta where connection is made with the Abitibi Electric Development Company's line to Iroquois Falls.

Service interruptions due to electrical storms have been more frequent on this district than would be anticipated from the records of other districts operated by the Commission. This has been attributed to the apparent higher storm frequency in the area served, coupled with the fact that the 246 miles of transmission line from Abitibi Canyon to Copper Cliff runs almost due south, thus intercepting a greater number of storms (which usually travel east and west) than the Commission's other lines of similar length which run in an east and west direction.

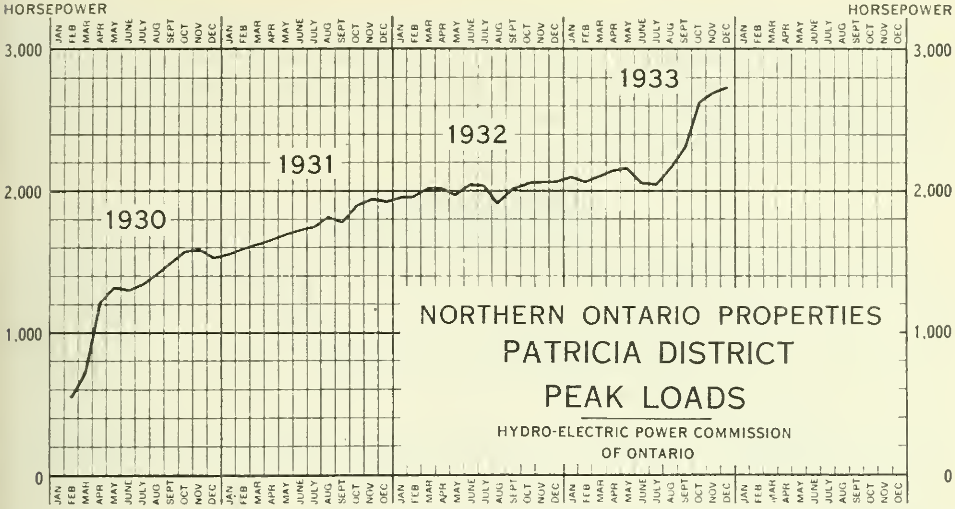
Maintenance of lines on the district was confined chiefly to replacement of a small number of insulators, most of which showed evidences of being damaged by rifle shots. Considerable brush cutting was found necessary on the right-of-way of the Hunta to Copper Cliff section of line. A close inspection of lines for loose tower bolts, deterioration of absorber rods, power conductor and ground conductor at points of suspension was made in both the spring and fall seasons.

The operation of the Abitibi Canyon generating station has been satisfactory during the few months it has been in service. Various adjustments and changes have been necessary, as is usually the case when a new station is placed in service, but these have been of a minor nature.

Toward the latter part of August the second generator at Abitibi Canyon generating station was sufficiently advanced to be placed in service. This released No. 1 generator for various adjustments. From this time to the end of the fiscal year, although two generators were at times available, the necessity of removing one or the other from service for adjustment, limited the capacity available for commercially continuous service to that of one unit.

Patricia District

The generating and transformer station at Ear Falls on the English river has been in satisfactory operation throughout the year. All equipment has functioned as required, there being no failures of major importance. The load on the system has shown an increase over that existing during the previous year. The average monthly energy generated was about 2.8 per cent greater and the average monthly peak approximately 8.9 per cent higher during 1933 than in 1932.



Four interruptions to service took place during the year, one of which was of rather long duration. On November 16, 1932, oil breaker 1B1T opened automatically due to trouble on the 44,000-volt transmission line. The trouble was found to be due to failure of a crossarm through-bolt which permitted the arm to swing down against the telephone crossarm, breaking one insulator. Due to communication being cut off from the Howey Mines and travelling in the deep snow being very slow, service was not resumed until 31 hours and 6 minutes later. On June 29 a 2-minute interruption to service occurred due to a flashover on the 44,000-volt transmission line during a lightning storm. On July 24 service was interrupted for one minute when oil-breaker 1B1T opened automatically in conjunction with oil-breaker 151 on the feeder to the water rheostat, due to a flashover on this feeder during a lightning storm. On August 16 a flashover occurred on one of the 2,200-volt feeders at Howey Mines during a lightning storm, 1B1T oil-breaker opened automatically and the operator had some difficulty in restoring normal voltage to the generator, with the result that an interruption of 19 minutes resulted.

A certain amount of maintenance work has been carried out on the major equipment during pre-arranged plant shut-downs. On July 7 the turbine was unwatered and the turbine and various hydraulic features were inspected and found to be in good condition. The turbine-operating mechanism, governor system and auxiliary mechanical equipment have been inspected and overhauled where needed.

The 44,000-volt transmission line between the generating station and the Howey gold mine, which is owned by the Howey Gold Mines Limited, has been operated and maintained for this Company throughout the year under the same arrangement for costs as previously. This transmission circuit has functioned very satisfactorily during the year, although it was responsible for the two outages outlined above.

The flow in the English river has been adjusted from time to time, as required by the Lake-of-the-Woods Control Board, by means of the regulating dam at Ear Falls.

The precipitation in the vicinity of Ear Falls has been about normal, being 25 inches during the year. With this precipitation, as well as conservation of water when not required, the level of Lac Seul has been raised about one foot during the year, the elevation on October 31, 1933, being 1160.8 as against 1159.9 on the corresponding day last year.

Manitoulin District

The Manitoulin district was first served by the Commission on December 16, 1932. Power purchased and metered by the Commission at the 600-volt bus of the Manitoulin Pulp Company's mill at Kagawong is stepped up to 12,000 volts between phases by means of three 100-kv-a. transformers which are installed in an outdoor-type station close to the mill. From this station power is supplied to the Manitoulin rural power district which at present consists of the municipalities of Gore Bay, Mindemoya and Kagawong, and a number of rural customers. Service has been satisfactorily maintained throughout the year.

NORTHERN ONTARIO PROPERTIES—LOADS OF MUNICIPALITIES, 1931-1932-1933

Municipality	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
NIPISSING DISTRICT					
Callander	112.8	175.0	196.4	....	21.4
Nipissing	3.0	3.0	3.0	....	....
North Bay	2,921.8	2,915.0	2,911.4	3.6	....
Powassan	117.7	131.0	106.5	24.5	....
SUDBURY DISTRICT					
Sudbury	3,967.8	3,667.5	3,599.2	68.3	....

NORTHERN ONTARIO PROPERTIES—LOADS OF RURAL POWER DISTRICTS, 1931-1932-1933

Rural power district	Peak load in horsepower			Change in load 1932-1933	
	Oct. 1931	Oct. 1932	Oct. 1933	Decrease	Increase
NIPISSING DISTRICT					
North Bay	68.3	77.0	77.9	....	0.9
Powassan	....	2.0	3.0	....	1.0
MANITOULIN DISTRICT					
Manitoulin	Date connected Dec. 16/32	Initial load 70.0	79.9	....	9.9

SECTION III

MUNICIPAL WORK

The Commission acts in an advisory capacity in connection with the operation of the "Hydro" utilities of the various municipalities with which it has contracts. In this connection the Commission arranges for the purchase, construction or extension of distribution systems and assists the municipal officials in making their financial arrangements to pay for the cost of these systems. All rate adjustments, as provided under *The Power Commission Act*, are recommended by the Commission, and a study of the operating conditions of all utilities is made annually and adjustments recommended accordingly. The Commission exercises a general supervision over the management and operation of all systems more especially in the smaller municipalities which, individually, are not of sufficient size to employ a manager with the technical knowledge necessary to administer properly all phases of the local system's operation.

In the case of the rural power districts, the Commission itself—on behalf of the corporations of the individual townships—operates the rural power systems, and distributes electrical energy to the customers of the respective corporations in any such rural power district.

NIAGARA SYSTEM

During the month of July, 1933, the Commission commenced taking power from the McLaren–Quebec Power Company. This power was transmitted over the 220,000-volt line from Beaudet to Chats Falls generating station by which power is obtained from the Beauharnois Light, Heat and Power Company. Commencing with the month of October, an additional block of power was taken from the Beauharnois Light, Heat and Power Company also over this line.

The load conditions on the Niagara system during the fiscal year, 1933, show an increase in the total amount of power taken by municipalities and industrial companies during the months of November and December, 1932, February, April, July, August, September and October, 1933, as compared with the corresponding months of the previous year. During the months of January, March, May and June, a slight decrease is shown in the amount of power taken, as compared with the previous year. These figures, however, do not include secondary power sold for process steam generation, and for export to the United States. Commencing with the month of February, the Commission sold a substantial block of secondary power to the pulp and paper industry for the generation of process steam, and in the month of June, resumed the sale of additional secondary power to the Canadian Niagara Power Company for export. The loads on the systems of the Commission are referred to more fully in Section II of this report.

Dominion Power and Transmission Properties

The distribution systems of the Dominion Power and Transmission Company in the cities of Hamilton and Brantford which were sold during 1931 and 1932 respectively have proved to be entirely satisfactory. The arrangements of sale provided for the purchase of these properties by payments extending over a number of years, but it is expected that the entire purchase price of the systems in both these cities will be paid sooner than originally planned.

Negotiations are under way in connection with the sale of the Dominion Power and Transmission Company's distribution system in St. Catharines to the local commission. The rural distributing lines of this Company have already been absorbed in the several rural power districts in which they are situated.

"Secondary" Power

"Secondary" power is a term applied to power which is sold subject to unlimited interruptions, to reduction or to complete withdrawal, at any time it is required for use by municipalities, or for the maintenance of the supply of firm power. Although the Niagara system of the Commission has a high load-factor it has, of course, daily and seasonal peaks; thus there are, even in times of normal industrial activity, periods of the day and of the year when large amounts of "secondary" power are available. "Secondary" power, however, on account of the uncertainty of the times and durations of the system peaks, is not sufficiently dependable for ordinary industrial uses. A limited amount of such power can be utilized by large special industries in certain heating and electro-chemical processes. Although Canadian consumers are at all times given priority of consideration, the chief market for "secondary" power which the Commission has had at its disposal on the Niagara system has up till recently been in adjacent territory in the United States served by supply systems securing a large proportion of their power from steam plants. Such systems, by utilizing, when available, this "secondary" power can conserve their fuel supplies. The sale of this power to the Canadian Niagara Power Company for use in the United States has enabled the Commission to employ profitably its generating equipment at times when not required to take care of the demands of the Niagara system. During the latter part of the year this Company has resumed taking this kind of power in substantial quantities.

Profitable Employment of System Reserve Generating Capacity

In times of curtailed industrial activity the amount of reserve power capacity which it is necessary to maintain, increases. If this reserve capacity can be put to profitable temporary use under conditions or contracts that ensure the maintenance of its character as system reserves, it is an economic gain to the Province and brings to the Hydro undertaking a revenue which reduces the cost of maintaining the essential reserves.

One market for this type of power is found in the production of steam for industrial processes. During the past year the Commission has supplied substantial amounts of secondary power for steam purposes and arrangements are being made to supply other companies in a similar manner. As general economic conditions improve, there will be less reserve power available for this purpose because more will be required for the normal uses of the municipalities. Meantime, it may be noted, the utilization of reserve power for the production of process steam replaces imported coal.

Engineering Assistance to Municipalities

General engineering assistance was given during the year to practically all of the municipalities in the Niagara system, by a general supervision of management and operation.

Estimates and work in connection with the rebuilding of distribution systems to take care of various conditions was undertaken during the year and additional transformer capacity provided where necessary in the following places: Amherstburg, Aylmer, Beachville, Blenheim, Brampton, Caledonia, Dresden, Drumbo, Dundas, Exeter, Fergus, Fonthill, Goderich, Mimico, New Hamburg, Niagara-on-the-Lake, North York Twp., Otterville, Paris, Plattsville, Port Credit, Preston, Ridgetown, St. Jacobs, Seaforth, Simcoe, Strathroy, Tilbury, Toronto Twp., Waterdown, Wellesley, Weston and Woodbridge.

Certain municipalities received special engineering advice and assistance regarding a number of matters, which are more fully referred to as follows:

Chatham—A 200-horsepower fire pump is being installed. The motor will operate at 4,000 volts and the pump will have a capacity of 5,000,000 imperial gallons per 24 hours at a pressure of 110 pounds. The present steam pump stand-by will be replaced with two gasoline-engine driven pumps in order to reduce the waterworks operating costs. The distance from the Chatham Hydro utility step-down station to the waterworks pumping station is approximately one mile and a special feeder will be erected.

Dunnville—An additional primary circuit and a new transformer bank were constructed for service to power consumers who were increasing their loads.

Georgetown—New lines were designed and their locations determined preparatory to removing circuits from the main street. Arrangements were made also for additional primary lines to improve service to power customers.

Goderich—Plans were made for rebuilding of a portion of the distribution lines which had become overloaded and particularly with a view to securing a primary loop so that interruptions for repair work would be reduced to the minimum.

Humberstone—Provision for convenience of operation and better service by arranging for interswitching with Port Colborne, is being undertaken, together with general system revision. Plans were submitted by the Commission's engineers and the work is being done under their supervision.

London—A new 13,200-volt feeder consisting of 3-conductor 4/0 cable was laid between the Commission's high-tension station and the corner of Highbury avenue and King street to take care of the increasing industrial load in this area.

St. Marys—The severe wind storm on June 9, badly damaged the circuits in all parts of St. Marys. Advantage was taken of the situation when rebuilding to replace equipment which had become inadequate, particularly conductor, and a large portion of the distribution system was rebuilt with larger conductor, new poles and heavier line material.

Sarnia—Specifications were prepared for the installation of two electrically driven domestic water pumps in the waterworks plant. These pumps will be equipped with 4,000-volt motors and have a capacity of 150 and 200 horsepower respectively. The present steam-driven pump will be retained as a stand-by in case of fire. Power will be supplied over a separate feeder from No. 1 municipal station to the pumping plant, a distance of approximately one and a half miles. The pumps will be capable of delivering 3,240,000 imperial gallons and 4,320,000 imperial gallons of water per 24 hours.

Tillsonburg—Plans are being prepared for the complete overhauling of the local substation, partly due to increased load and partly to obtain better operating conditions.

GEORGIAN BAY SYSTEM

A small increase occurred in the power demand of this system during the year, but for the most part, the loads in the various municipalities were constant with respect to previous year conditions. A new industry of fair magnitude in one of the municipalities, together with a large number of new consumers taken on in the summer resort districts, established a higher system peak during a portion of the year, but as the new summer load is in existence for only about two or three months, and as the new industrial load was in operation during the latter part of the year only, the total yearly average load increase was not greatly affected.

The distribution system in the village of Mildmay purchased last year by the Commission from The Mildmay Electric Light Company, was sold to the corporation of the village, and the distribution system purchased last year from

The Formosa Electric Light Company was merged into the Bruce Rural Power District, and service given to the various consumers in accordance with the rural sections of the Power Commission Act.

A new 22,000-volt transmission line was constructed between Shelburne and Orangeville replacing the old line purchased from The Pine River Light & Power Company in 1916, and all financial matters, as well as all features of improved service in connection therewith, were placed before all the municipalities affected by the change, and approval obtained. Arrangements were also made for reconstructing the transmission line between Grand Valley and Arthur, and a large portion of this was completed during the year.

General engineering assistance and advice concerning the maintenance and operation of the various local distribution systems, also assistance in connection with the application of rates, and the submission of information to power and lighting customers was rendered to all of the municipalities throughout the year.

Engineering advice of a special nature in connection with matters referred to was given to the following municipalities:

Chatsworth—Plans and specifications were prepared covering a complete rebuilding of the local distribution system.

Formosa—The primary line out of the Walkerton generating station which feeds the hamlet of Formosa, as well as the local distribution system of Walkerton, was completely reconstructed and made a part of the Bruce rural power district.

Kincardine—The Public Utilities Commission submitted information concerning the cost of power to a new industry. It negotiated a contract for power service, rebuilt a portion of the distribution system in order to deliver power to this new consumer, and enlarged the local substation to provide adequate transformer capacity for supplying this new load in conjunction with the existing load in the municipality.

EASTERN ONTARIO SYSTEM

This system includes the Central Ontario, St. Lawrence, Rideau, Ottawa and Madawaska districts. The area served is that part of Ontario lying east of the area served by the Georgian Bay and Niagara systems.

The power supply is from developments owned by the Commission on the Trent Canal system and on the Mississippi and Madawaska rivers. Power is purchased from the Gatineau Power Company, the Rideau Power Company and the Beach Estate at Iroquois.

The Commission controls or has an interest in a number of undeveloped water-power sites on the Ottawa, Mississippi and Madawaska rivers, from which sites additional power can be made available when warranted by the demand. At present the growth of load is met by increased deliveries of power purchased under contract with the Gatineau Power Company.

Owing to low water conditions on the Trent Canal system, the power allotments due from the Gatineau Power Company were all required in the closing months of this year.

General engineering assistance and advice was given to municipalities concerning the management and operation of the various local distribution systems.

Certain municipalities received special engineering advice and assistance regarding a number of matters, which are more fully referred to as follows:

Bobcaygeon—Estimates on the cost of power were given to this municipality last year but no action was taken by the municipal officials. This year a further request was received from the municipality for new estimates. New estimates based on present conditions were submitted.

Brockville—The Brockville Public Utilities Commission has this year paid off all its debenture debt against the local utilities. This event was celebrated by a banquet on October 12, 1933, at which the members of the Provincial Commission were guests of honour.

Cobourg—The electrical distribution system and waterworks which were purchased by the Corporation from the Commission last year, were managed and operated by the Commission on behalf of the Corporation from January 1, 1932, to January 1, 1933, when the management and operation of these utilities were taken over by the Cobourg Public Utilities Commission, which will operate them, in future, on behalf of the Corporation.

Colborne—The corporation of Colborne concluded negotiations for the purchase of the distribution system in the village from the Peebles Estate on January 1, 1933. From this date the system has been operated by the municipality under a cost contract with this Commission.

Newcastle—An extension of the Newcastle distribution system to Newcastle-on-the-Lake authorized last year was completed and power made available for the summer season.

Norwood—The rebuilding of part of the local distribution system, necessitated by improvements to the highway, was completed by the Commission on behalf of the municipality.

THUNDER BAY SYSTEM

An outstanding improvement has taken place in the demand for power on this system during the year. A large portion of the load increase was not obtained until near the end of the current year, but early in the new year the entire surplus capacity of the two generating plants at Cameron Falls and Alexander will be sold and the generating equipment of the combined developments on the Nipigon river will be completely loaded for the first time since the completion of the

Alexander development. One of the large pulp and paper mills at Port Arthur, formerly closed down, resumed operations during the last four months of the year, and another large mill in Fort William increased its demand by several thousand horsepower.

New load to the extent of approximately 40,000 horsepower was contracted for, with two large pulp and paper mills for the operation of electric steam generators. This new load was sold on an "at-will" basis and is recallable at any time during the term of the agreements should the power be required for supplying firm power to new or existing consumers. One of these steam generator installations, with a demand of about 18,000 horsepower, was placed in operation in September, and the installation of equipment under the other contract is nearly completed and will probably be placed in operation during the first month of the new year.

A large extension was made to the Port Arthur rural power district and service was given to approximately 60 summer consumers situated along the shores of Thunder Bay east of Port Arthur.

Engineering assistance and advice covering the management and operation of the various distribution systems was given to the cities of Fort William and Port Arthur, and to the village of Nipigon, and the complete operation of the Port Arthur and Fort William rural power districts was carried on by the Commission on behalf of the various townships concerned.

NORTHERN ONTARIO PROPERTIES

Nipissing District

This district comprises the area lying north and east of Lake Nipissing, and is served by three generating plants, situated on the South river, supplying electrical energy to the city of North Bay, the town of Powassan, the unincorporated hamlets of Callander and Nipissing and the rural districts adjacent to North Bay and Powassan. Load conditions in this district were fairly constant throughout the year, in consequence of which no special changes, or improvements were required in generating plant, transformation, transmission, or distribution equipment. Arrangements were made, however, to secure an additional 750-kv-a in transformer capacity for North Bay to provide spare or emergency equipment for future operation.

Abitibi District

This district comprises the entire area lying within transmission distance of the Abitibi Canyon development, including the mining districts adjacent to Sudbury, Kirkland Lake, and Timmins. During the year the Commission became responsible for the operation of the Abitibi Canyon development and transmission lines, formerly the property of The Ontario Power Service Corporation. The Abitibi Canyon development was placed in operation during the month of May, and an engineer was assigned to the Abitibi district in order to maintain contact with all of the existing and prospective mining companies, for the purpose of submitting information in connection with the use of electrical energy and the cost thereof, and negotiating contracts for the sale of power. Definite information was submitted to the officials of several new mining properties and details of agreement covering the sale of power were discussed. It is expected that several agreements covering the delivery of electrical energy will be closed with these mining companies early in the new year. A contract was also completed with The Canada Northern Power Corporation covering the sale of power by the Commission to the company of its entire future load growth for a period of ten years. A large block of "at-will" power was sold to one of the large paper companies under a temporary agreement, for electric steam generation, and arrangements were made to negotiate a long-term contract with the same company for 60,000 horsepower under similar conditions. It is anticipated that the results of the efforts being made will require the construction of from 150 to 200 miles of high-tension transmission line, and of several transformer stations early next year, to take care of local growth in this district.

Sudbury District

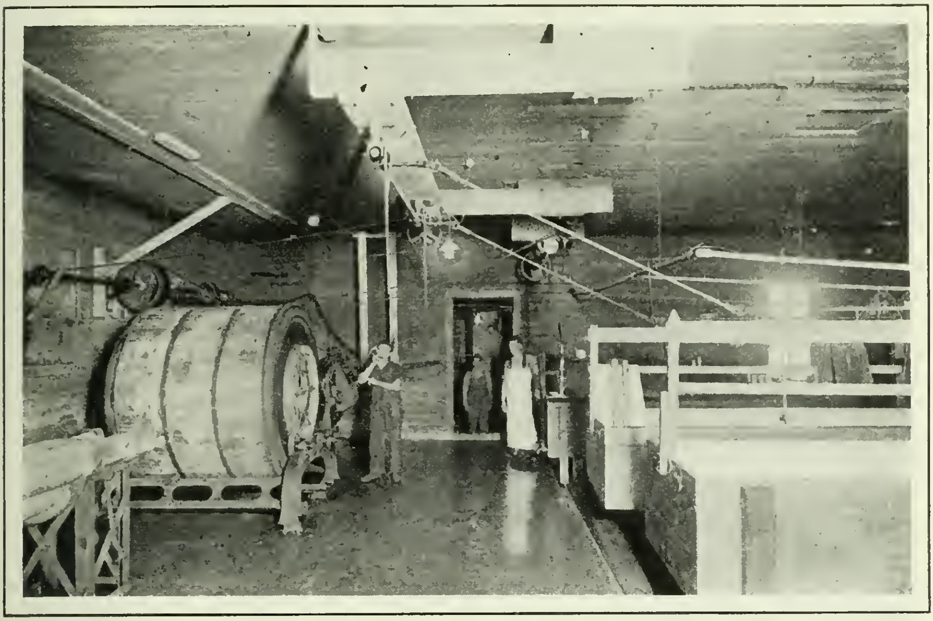
The district comprises the area adjacent to the city of Sudbury, to which power is supplied at 60 cycles from three power developments on the Wahnapitae river. The demand for 60-cycle power in this district has been such that the power that can be produced by the generating capacity of these three developments has all been sold, and any further load increase will have to be taken care of by 25-cycle power from the Abitibi Canyon development and transmission line, or, by the installation of frequency changer sets. A new contract was negotiated with one of the large mining companies, providing for an increased demand of 50 per cent, and assistance was given to the city of Sudbury in connection with the operation of its local distribution system. Information was also submitted to the rural districts adjacent to Sudbury with respect to procedure concerning the securing of Hydro-Electric service from the Commission.

Patricia District

Information and advice was given to the large gold mine, at present being served from the Ear Falls development. A survey was made, estimates were prepared, and negotiations carried on concerning the construction of a development at the foot of Lake Joseph on the Albany river in connection with supplying power to two mining properties.

Manitoulin District

This district comprises the entire Island of Manitoulin, and, at the present time, power is being delivered to a rural power district, inclusive of the town of Gore Bay, and the hamlet of Mindemoya. Meetings were held throughout the year in the eastern section of the island adjacent to Little Current and Manitowaning, also Sheguindah, in connection with supplying these municipalities, and adjacent rural sections, by means of any extension to the existing lines, or by securing power from another development. At the present time power is being purchased from the Kagawong development of The Little Rapids Pulp Company under a contract which was executed during the year.



RURAL ELECTRICAL SERVICE IN ONTARIO
A cheese factory utilizing electric power—one of many rural industries that have experienced the economy of "Hydro" service

RURAL ELECTRICAL SERVICE

There are now 171 operating rural power districts served by the Commission. These districts deliver power to approximately 62,000 rural consumers in 352 townships and 92 police villages, over a network of rural primary lines which, in length, aggregates more than 9,000 miles. In addition to the 352 townships served, there are 8 townships served jointly by rural power districts and voted areas. In the years prior to 1920 this service was supplied to townships and for the most part the rural consumers were reached by extensions to existing urban and suburban distribution networks. In 1920, amendments to The Power Commission Act provided for the formation of rural power districts and in 1921 and 1924 special rural Acts were passed by the Provincial Legislature providing for the payment of Provincial "grants-in-aid." These legislative enactments; *the special consideration given to rural electrical service; and the experience gained and put into practice by the Commission, have resulted in a remarkable growth in rural electrical service in Ontario. This is well shown by the accompanying charts. There is, indeed, no branch of the Commission's activities to which, during recent years, more detailed consideration has been given than its department of rural electrical service.

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*Re Rural Power District Legislation:—Consult *The Power Commission Act* (R.S.O. 1927, ch. 57): *The Rural Hydro-Electric Distribution Act* ((R.S.O. 1927, ch. 59; *The Rural Power District Loans Act, 1930* (20 Geo. V, ch. 14), and *The Rural Power District Service Charge Act, 1930* (20 Geo. V, ch. 15).

RURAL ELECTI

Hydro service brings to Ontario farms a higher stand
in house, dairy and barn. Only those city
farm under other methods can

Distribution of power to rural communities has now gained an established place in Ontario country life. The improvements that can be effected in the standard of living by the generous use of electricity on the farm and in the farm home are everywhere recognized. It is clean for the house, convenient and safe for all uses and under Hydro rates very economical. Even during the past two years when the cumulative effects of the period of economic stress have been most acutely felt, appreciable gains have been made in rural power districts both to the number of consumers served and to the total mileage of lines.

It must, however, be recognized that rural electrical service is essentially a community interest and to attain its greatest success must have the whole-hearted support of all rural dwellers. Co-operation is the keynote of success. Primarily, rural service is made possible by the great networks of transmission lines which have been constructed to serve urban municipalities. These networks afford a base from which rural primary lines may economically be extended over wide areas of the more closely settled parts of rural Ontario. Thus there is co-operation between the urban and rural citizens. The growth in the mileage of rural lines during normal years has been phenomenal, until at the present time the aggregate length of such lines exceeds the mileage of the main transmission lines built to serve urban centres. In the rural power districts the transmission lines which serve the individual farmers can also carry electrical energy to churches, schools and stores, as well as provide power for factories utilizing

E IN ONTARIO

with comfort and relief from many arduous tasks
ve had experience of life and work on the
ate the benefits of this service

agricultural products as their raw material. Thus, co-operation produces the greatest benefit to all and results in lower costs.

In supplying electrical service to rural districts the Commission has followed a comprehensive and carefully thought-out programme. Rural power districts are designed to be economic unit areas with respect to the transmission lines and power supply facilities that are available, and their boundaries are not arbitrary geographical limits such, for example, as define the areas of townships. In practice a typical district covers about 100 square miles.

The experience gained by the Commission and the improvements in technique enable electrical service to be given to rural districts when there can be secured three signed farm contracts, or their equivalent, per mile of line to be constructed.

Provincial Government Aids Rural Service

Assistance respecting electrical service is given by the Province to farmers and rural residents in three ways, namely:

First—A grant-in-aid toward the initial capital cost of supplying electrical service, amounting to 50 per cent of the cost of line and secondary equipment necessary to deliver power from the supply point of the Commission's stations or of a city, town, village, etc., to the customer's property. This is the maximum amount provided for by *The Rural Hydro-Electric Distribution Act.*

Second—Authority has been granted by the Province to the Commission in *The Rural Power District Service Charge Act, 1930*, to fix a maximum service charge for any class of service rendered by the Commission in a rural power district. Where as may be the case in newly established rural power districts such maximum service charge is not sufficient to meet the necessary cost of service, as specified by the Commission, the deficit is chargeable to and payable out of the Consolidated Revenue Fund of the Province. Payments made out of the Consolidated Revenue Fund for this purpose, on account of any rural power district, are charged to that rural power district in a special account—known as the "Rural Power Service Suspense Account"—in the books of the Treasurer of Ontario, and any surplus thereafter arising from any maximum service charge in that rural power district is to be paid to the Treasurer of Ontario and placed to the credit of the rural power district in such suspense account until the deficit is extinguished. Where a temporary deficit arises in any rural power district owing to the application of the maximum service charge, such maximum service charge must remain in force and be charged in that rural power district until the deficit is extinguished.

A tabulation set out on an accompanying page shows the present maximum service charge placed in effect on January 1, 1930.

Third—An Act—*The Rural Power District Loans Act, 1930*—to provide for granting aid towards the installation of electrical works in rural power districts was passed during the year 1930. The purpose of this Act is to provide advances towards the installation of electrical services in rural power districts, subject to regulations. Aid may be granted subject to such regulations and repayments, or the wiring from the transmission or distribution lines of the Commission into and throughout dwellings, farms, out-houses, and any other works which may from time to time be specified by the regulations. In addition to the wiring, loans may be obtained on transformers, motors, or other appliances, as may be necessary or expedient for any industrial, agricultural or domestic purpose which may be specified in the regulations.

Rural Loans

Loans have been made to rural consumers to aid them finance the cost of wiring their premises and the installation of motors, grain grinders, pumping systems, milking machines and washing machines—all made possible by the passing of *The Rural Power District Loans Act* in 1930.

Up to October 31, 1933, there have been 496 applications for loans received since the Act was put into force. Of these 144 were received during the last fiscal year. During the fiscal year 11 applications have been withdrawn by the applicants, 12 have been either ineligible for loan due to the condition of the security or the applicants have failed to conform to the regulations—approval to these has not been given—and 29 applications are pending the receipt of information from the field to enable the Commission to approve them. In all, 371 applications have been approved and loans granted up to October 31, 1933; of these, 110 have been granted during the past fiscal year.

The following table shows the applications approved and granted in the various systems:

APPLICATIONS FOR RURAL LOANS APPROVED AND GRANTED

System	To Oct. 31, 1932		Fiscal Year 1933		Total to date	
	No.	Amount	No.	Amount	No.	Amount
		$		$		$
Niagara	166	36,260	93	17,135	259	53,395
Georgian Bay	76	21,727	9	2,065	85	23,792
Eastern Ontario	19	5,715	3	415	22	6,130
Northern Districts—Manitoulin Island	......	....	5	1,060	5	1,060
Totals	261	63,702	110	20,675	371	84,377

The average loan amounts to $227.43.

DETAILS OF RURAL LOANS GRANTED UP TO OCTOBER 31, 1933

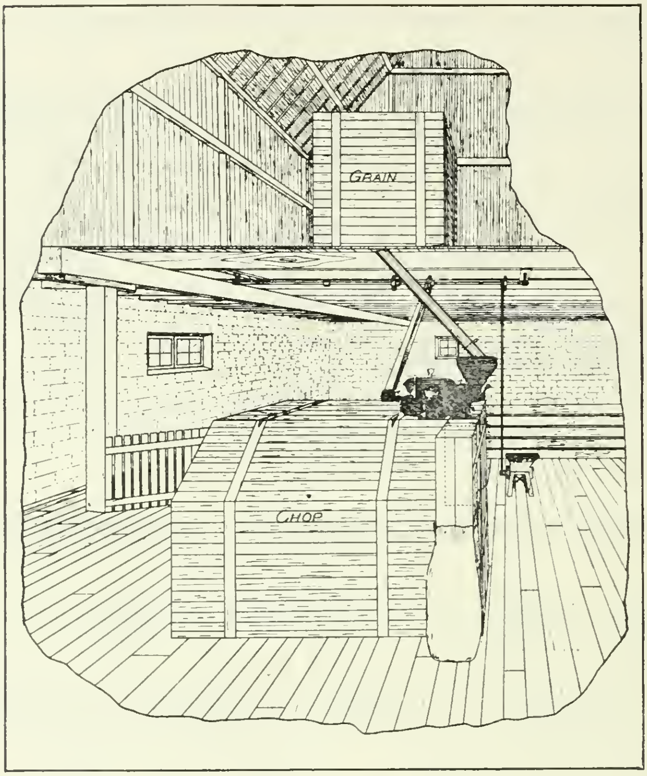
Items applied for (including installation) in loans which have been paid	1930-31 74 Applications Granted		1931-32 187 Applications Granted		1932-33 110 Applications Granted		Totals All Applications Granted	
	Number affected	Cost to consumers	Number affected	Cost to consumers	Number affected	Cost to consumers	Number affected	Cost to consumers
		$		$		$		$
Service	60	3,485	91	4,756	21	1,286	172	9,527
House wiring	63	7,861	90	8,077	18	1,279	171	17,217
Building wiring	60	6,160	87	7,453	24	1,470	171	15,083
Motors	16	1,545	15	1,508	7	942	38	3,995
Grain grinders	15	2,490	95	16,986	87	15,635	197	35,111
Pumping systems	6	616	8	849	2	147	16	1,613
Milking machines	2	675	2	405	2	386	6	1,466
Washing machines	15	1,734	8	934	2	159	25	2,827
Totals	74	24,566	187	40,968	110	21,304	371	86,839

Respecting the 371 applications which have been granted, the following table shows the number of loans approved for each term of years from one to ten years:

One year term	4 loans	Six year term	6 loans
Two “ “	4 “	Seven “ “	72 “
Three “ “	24 “	Eight “ “	9 “
Four “ “	11 “	Nine “ “	0 “
Five “ “	203 “	Ten “ “	38 “
		Total	371 “

Up to October 31, 1933, 29 loans had been repaid in full, either through the fact that the loans matured or because of the improved financial position of the loanee.

The assistance given by the Province in these several ways is in pursuance of a long-established governmental policy of promoting the basic industry of agriculture. This policy had previously found expression in the establishment of



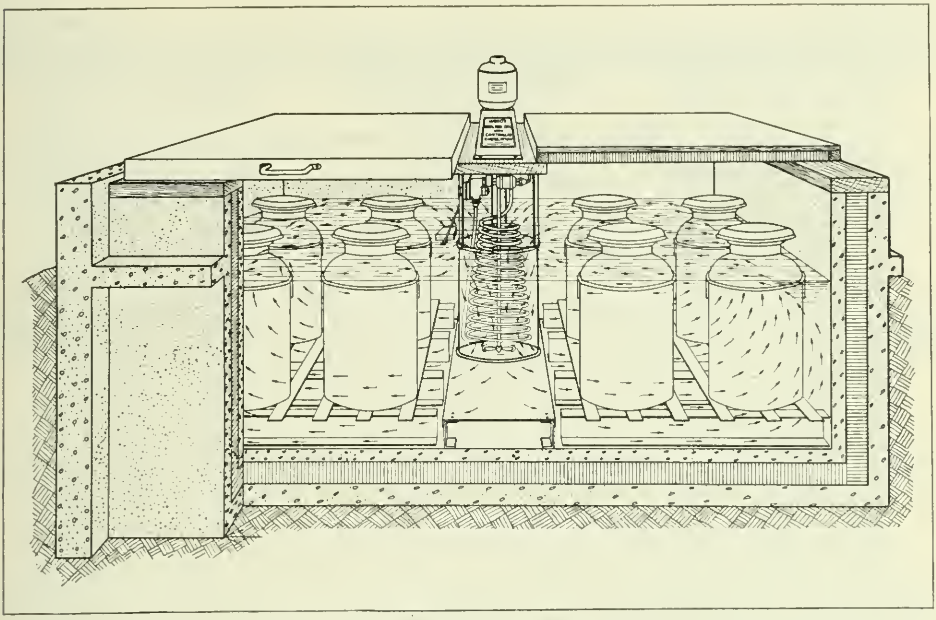
RURAL ELECTRICAL SERVICE IN ONTARIO

The utility-motor chopper set up as shown permits chopping to be done while the operator is otherwise employed in the barn. The line shafting, when belted to the motor, will supply power for many other machines used in the barn

agricultural schools, colleges and experimental farms, in assistance for farm drainage, road building and in other ways. The grants-in-aid and guarantees thus given make it possible to extend hydro-electrical power service to those engaged in and connected with agricultural pursuits in less densely populated districts where otherwise such service would not be financially feasible.

The extent and effect of the Province's financial assistance with respect to the distribution of power in rural districts should be clearly understood. The Government grant-in-aid relates solely to the initial capital investment for distribution facilities in rural power districts only. Having made its grant-in-aid, the Government further participates in the operation of each district in that it guarantees a maximum service charge, otherwise its participation in the operation of the property ceases. Each rural power district not only pays the cost of operation, maintenance and administration of its lines, but also sets up reserves for renewals, obsolescence and contingencies on the whole of the equipment and lines, as well as for sinking fund on the investment made by the Commission on behalf of the townships served.

The aggregate load distributed to the rural dwellers is, and possibly must always be, but a relatively small proportion of the total load distributed by the



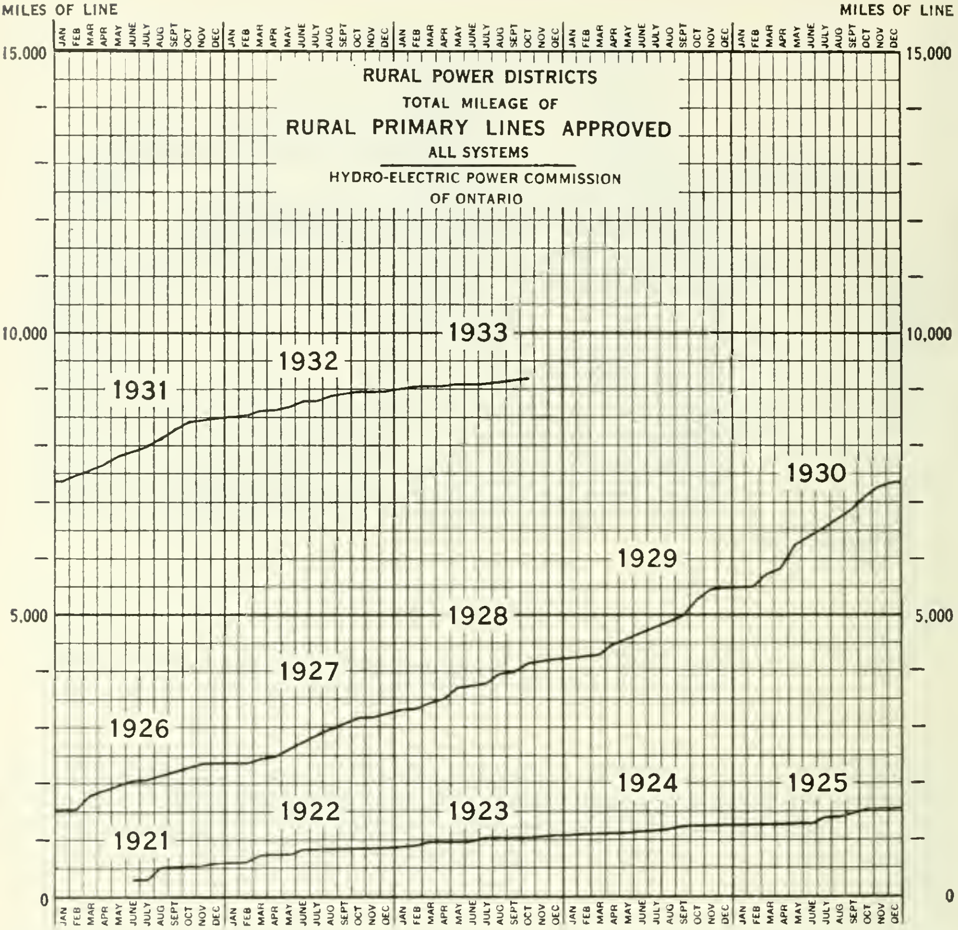
RURAL ELECTRICAL SERVICE IN ONTARIO

Milk cooling by electric refrigeration with agitation is now being used by progressive Ontario farmers to their economic advantage. It is reported that this method of cooling is less expensive, more reliable and certainly cleaner than ice

Commission when the amounts of power supplied to large cities and industrial consumers are taken into consideration, but some idea of the magnitude of the rural load may be conveyed by stating that it is now equal to the sum of the loads supplied to eight of the smaller cities served by the Commission, or to the loads supplied to 38 towns of population 2,000 or more.

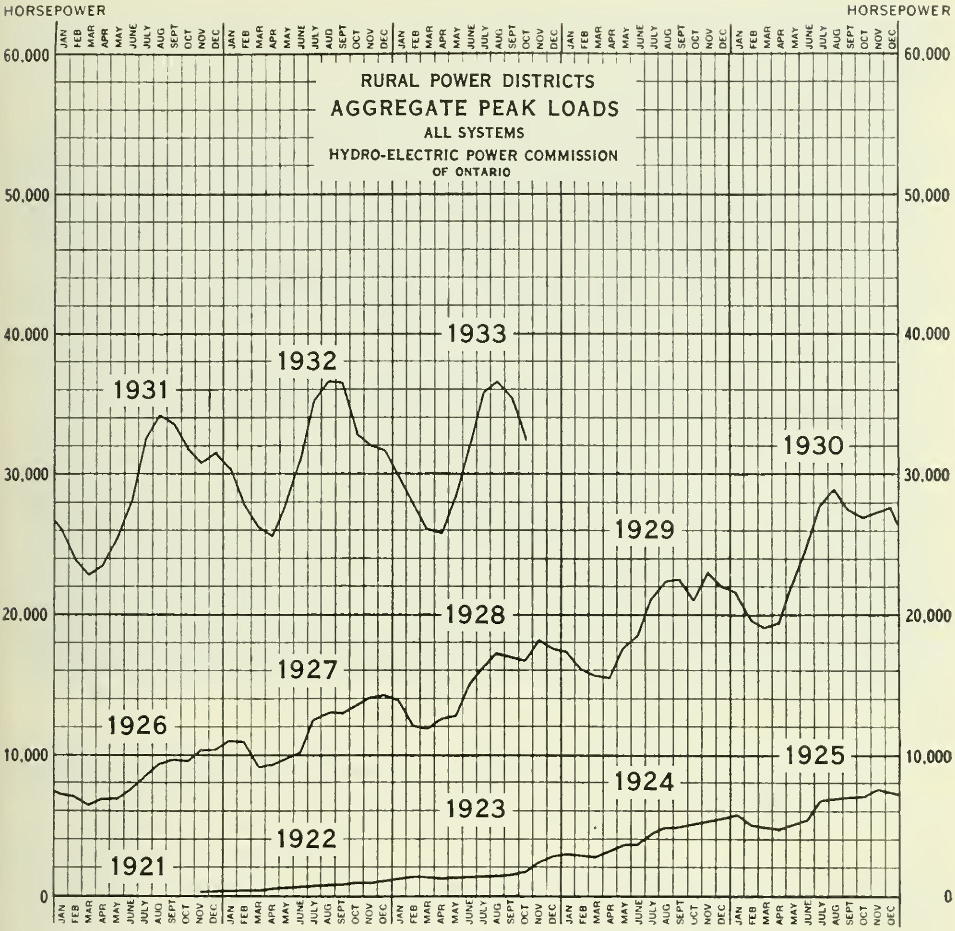
The accompanying diagrams and tables illustrate the expansion of rural electrical service in Ontario during the last thirteen years. The greater area covered is shown by the increased mileage of primary lines approved. The increase in the use of electricity by the farming communities is shown by the aggregate power loads supplied to the rural power districts. It is believed that further substantial progress will be made in the next few years. An outstanding reason for this growth is the extent to which the Commission has gained the confidence of the rural communities through efficiency in the construction of lines, through progressive reductions in rates and by a continuity of service which has contributed very materially to progress by inspiring confidence in the use of electrical power-driven machinery.

Further research investigation of equipment for use on the farm has been carried on by the Commission's engineers in an effort to improve the efficiency of the application of Hydro power to the needs of the Ontario farmer and to develop new uses to their advantage. Plates for grain choppers have been further improved and new developments in the utility motor chopper have been started by manufacturers in co-operation with the Commission. Milk coolers employing the agitation principle have been produced which achieve the desired



RURAL LINE EXTENSIONS DURING THE YEAR 1933

System	Miles of primary line	Number of consumers			Power supplied in October, 1933	Capital approved for extensions	
		Hamlet	Farm	Total		Total	Provincial grant-in-aid
						$ c.	$ c.
Niagara.	113.76	775	512	1,287	24,296	274,682.00	137,341.00
Georgian Bay.	40.23	312	118	430	2,473	101,482.94	50,741.47
Eastern Ontario. . . .	58.74	307	154	461	5,329	151,051.00	75,525.50
Thunder Bay.	26.65	55	5	60	113	48,183.00	24,091.50
Northern Ontario Properties:							
Nipissing District	2.73	23	1	24	81	7,086.00	3,543.00
Manitoulin District	4.40	43	6	49	80	8,377.00	4,188.50
Total.	246.51	1,515	796	2,311	32,372	590,861.94	295,430.97



SUMMARY OF RURAL LINE EXTENSIONS

As Approved by the Commission from June 1, 1921, to October 31, 1933

System	Miles of primary line	Number of consumers			Capital approved for extensions	
		Hamlet	Farm	Total	Total	Provincial grant-in-aid
					$ c.	$ c.
Niagara	6,581.34	22,405	22,135	44,540	14,528,882.63	7,241,161.31
Georgian Bay	826.18	4,044	1,777	5,821	1,726,687.95	829,681.99
Eastern Ontario	1,637.16	6,769	3,969	10,738	3,612,244.79	1,806,122.39
Thunder Bay	77.20	111	150	261	135,300.00	67,650.00
Northern Ontario Properties:						
Nipissing District	15.12	293	29	322	44,094.00	22,047.00
Manitoulin District	37.40	143	20	163	62,923.00	31,461.50
Total	9,174.40	33,765	28,080	61,845	20,110,132.37	9,998,124.19

result in a minimum of time. The Commission's engineers, in co-operation with the Agricultural Engineering department of the Ontario Agricultural College at Guelph, have jointly made studies and suggestions in the perfecting of this equipment.

During the past year electrical soil heating was the subject of research in regard to its use on vegetable growers' farms at Burlington, Vineland Testing station and the Ontario Agricultural College. Investigations were also made in order to show the variety of uses to which electrical soil heating might be applied by vegetable growers, florists, etc. These investigations were actually carried out in the tobacco seed propagating beds at Simcoe, in the propagating flower beds at Niagara Falls, also in the open vegetable fields in the vicinity of Collingwood and Burlington.

Co-operation with the Ontario Government Emphasizing the Importance of "Ontario Products for Ontario People"

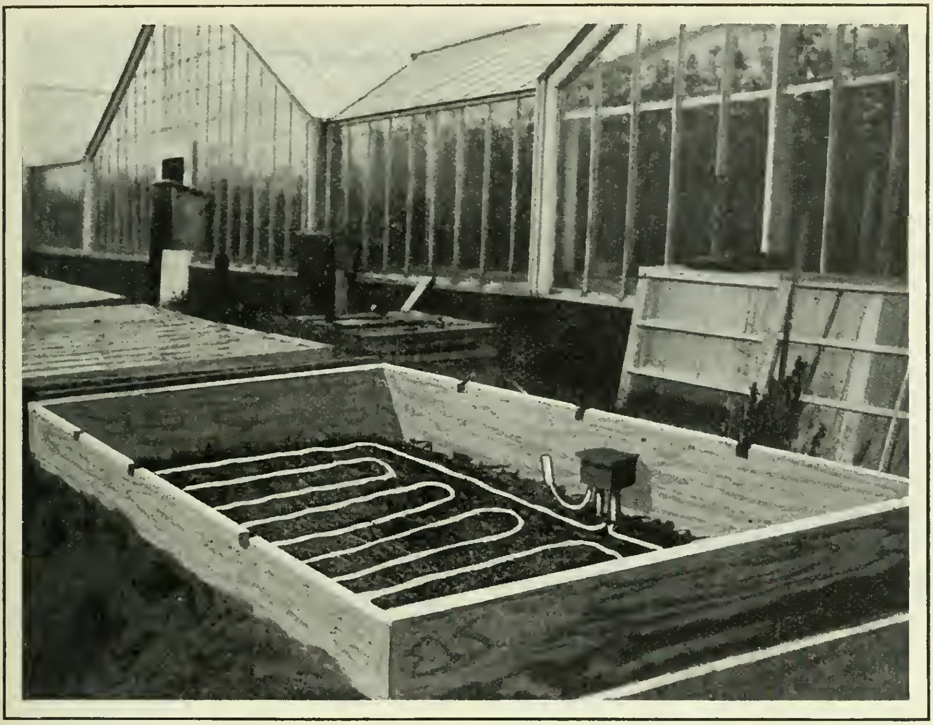
The Ontario Department of Agriculture arranged during the year to conduct cooking schools in various centres throughout the Province. These schools were for the purpose of emphasizing the importance of "Ontario Products for Ontario People." At the request of the Minister of Agriculture the Commission co-operated with the Department by setting up for demonstration purposes electrical apparatus for the kitchen such as cooking appliances, refrigerators, etc. This equipment was loaned by the various manufacturers and two-day electric cooking demonstrations were held in various centres as follows: Aylmer, Brampton, Brighton, Exeter, Lindsay, Milton, Napanee, Newmarket, Orangeville, Port Hope, St. Marys and Stratford.

Considerable interest in the information provided was apparent as these classes had an average attendance of 250. In two cases severe weather interfered with the attendance. The places at which these demonstrations were given were selected with a view to providing information for the smaller towns and rural districts; as it was considered that the cities and larger towns were already well informed through demonstrations by the various manufacturers of electrical apparatus.

The Year's Constructional Activities

During the past year the amount of constructional work carried out in the rural power districts was much lower than that obtaining a few years ago. Nevertheless some 250 miles of primary transmission lines were constructed or under construction and electrical service was given to more than 2,300 additional consumers. The capital expenditure approved for rural construction work during the past year was $590,862, and the aggregate peak load in October, 1933, reached 32,372 horsepower. Details of these matters and of the present status of rural distribution are presented in the accompanying tables. For the coming year, arrangements have been made to construct about 300 miles of additional rural lines.

The tabulation on page 76 shows the extensions approved during the year, the number of consumers, the amounts of power supplied, the capital expenditures and the amounts of provincial grant-in-aid of rural lines approved by the Government.



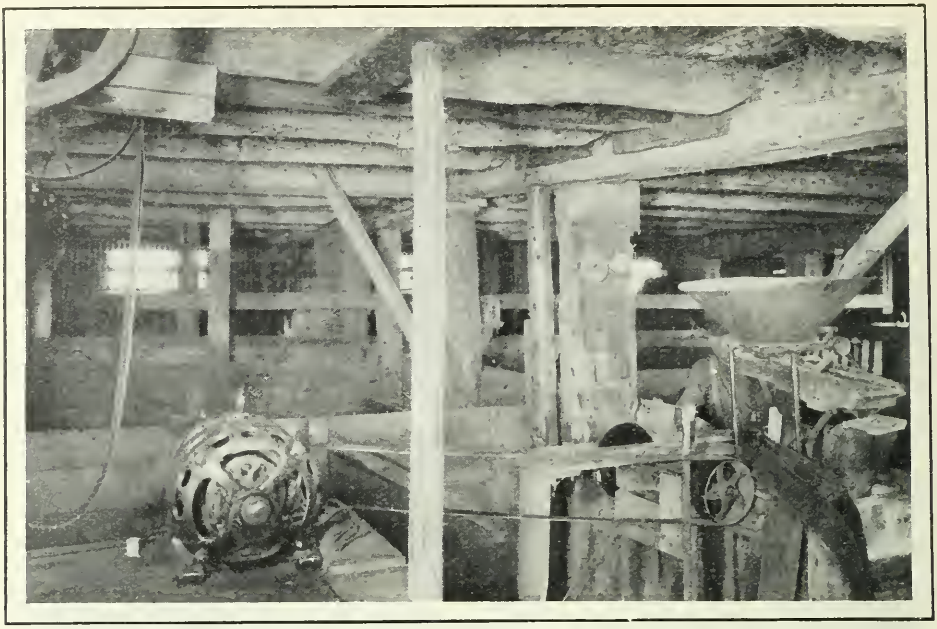
RURAL ELECTRICAL SERVICE IN ONTARIO

Electric soil heating by cable heater units installed on or under the soil of propagation or growing areas, produces surprising results in advancing and increasing the harvest. Control, automatically or at the will of the operator, provides flexibility formally not available to the grower. This is a comparatively new field of application for Hydro-electric power

Rates for Rural Electrical Service

Rates to rural consumers are based upon service "at cost"—proper account, of course, being taken of the Provincial grant-in-aid for rural work and the operation of the provision for a maximum service charge—and as in urban centres the rates are made up of two parts, a service charge and a consumption charge. In any given rural power district the service charge to a consumer depends primarily upon the individual connected load or demand which determines his class rating (see "Classification of Services") but this is modified in the earlier years of operation of a rural power district by the provision respecting maximum service charge; the consumption charge is in the form of a first and second kilowatt-hour charge and is largely determined by the cost of power at the source of supply to the rural power district.

An important factor in connection with rural power supply is the stability of rates charged. Since service is given at cost and since it is the policy to give service whenever economically practicable, it is necessary, in the interests of the rural consumers themselves, to ensure by contract a certain minimum return from each mile of line constructed. Otherwise, if one or two prospective consumers failed to take service, it would place an unfair burden upon those who did. Experience has led the Commission to adopt the safe policy of constructing rural lines only when sufficient contracts have been signed to guarantee payment of the



RURAL ELECTRICAL SERVICE IN ONTARIO

In this installation the saw is being driven by a 3-horse-power motor. The motor can also be belted to the chopper or to a lineshaft for driving other power-using equipment. Belted-motor chopper installations are in many cases being superseded by utility-motor choppers requiring only half the power

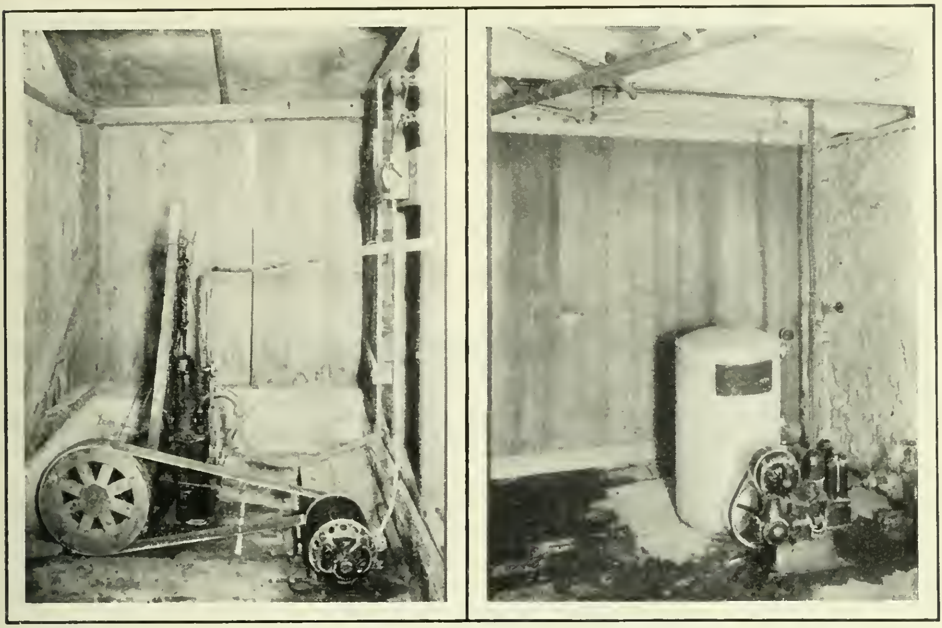
fixed charges on their cost; the minimum signed contracts required being three ordinary farm contracts or their equivalent per mile of line constructed.

For the purpose of determining the service charge, each mile of line is assumed to represent a minimum of 15 units and to each class of service is assigned a value in such units. The accompanying table gives this information and shows the annual and monthly service charges applicable to each class of service. It may be stated that more than 90 per cent of the contracts entered into for farm service are either of Class 2B or Class III. These, therefore, are the representative classes for individual farm service.

Rather more than half the consumers in rural power districts are grouped in hamlets or small villages closely identified with rural activities, and these consumers are usually in Class 1B or Class 1C. It should further be understood that rural power districts do not include suburban districts or larger villages. These have their own electrical utilities.

Usually new rural power districts begin at standard rural rates and these constitute the maximum rates submitted to the proposed consumers. As the average number of consumers per mile of line increases, the service charges may be, and in practice have been, reduced; and with increased consumption the rates per kilowatt-hour are also lowered. Thus, in older-established rural power districts the total cost of service is much below the initial standard rates.

At the end of this section is given a tabulation of the rural power districts established in connection with the several systems of the Commission, which shows the miles of line, the number of consumers and the rate schedules for each district.



RURAL ELECTRICAL SERVICE IN ONTARIO

Present pumps may be adapted to electric drive by using a jack belted to a motor, usually with a supply tank at a height

The automatic electric pump used in rural districts, assures a water service equal to that in towns and cities. In the equipment shown, the pump is automatically started when the pressure in the small tank falls below a certain level

SERVICE CHARGES IN RURAL POWER DISTRICTS—SINCE JAN. 1, 1930

With Provincial Grant-in-Aid—25-cycle and 60-cycle Service

Class of rural service	Units per consumer*	Approx. number of customers per mile of line	Demand allowed consumer in k-w.	Kilowatt-hours per month at first rate	Gross annual service charge	Gross monthly service charge	Net annual service charge	Net monthly service charge
					$ c.	$ c.	$ c.	$ c.
1B	2.25	6.8	1.32	30	18.00	1.50	16.20	1.35
1C	3.75	4.0	2.0	30	27.96	2.33	25.20	2.10
2A	1.90	8.0	1.32	30	20.64	1.72	18.60	1.55
2B	3.50	4.3	2.0	30	27.96	2.33	25.20	2.10
3	**5.00**	**3.0**	**3.0**	**42**	**33.36**	**2.78**	**30.00**	**2.50**
4	5.35	2.8	5.0	70	36.00	3.00	32.40	2.70
5	7.50	2.0	5.0	70	50.04	4.17	45.00	3.75
6A	12.50	1.2	9.0	126	62.04	5.17	55.80	4.65
6B	12.50	1.2	9.0	126	70.68	5.89	63.60	5.30
7A	20.00	0.74	15.0	210	92.64	7.72	83.40	6.95
7B	20.00	0.7	15.0	210	111.36	9.28	100.20	8.35

*Before a rural primary line is constructed contracts equivalent to 15 primary units per mile must be signed. (For explanation of units see accompanying text.) Thus three Class 3 consumers at 5 units each equals 15 units. Service charges are adjusted so that each class of service bears its equitable share of the cost.

Note: For classification of services see page 88.

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1933

NIAGARA SYSTEM

Rural power district			Miles of line	No. of consumers	Rural rates: Class and gross monthly service charge: 1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	Gross consumption charge: 1st 14 hrs. use of class demand min. 30 kw-hrs.	All additional	Prompt payment discount
					$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	cents	cents	%
Acton	N5	D1	8.88	22	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Ailsa Craig	N4	D7	5.80	16	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6.5	2	10
Alvinston	N18	D9	3.87	8	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Amherstburg	N15	D3	59.55	590	1.30	2.33	1.60	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Aylmer	N11	D2	114.31	618	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Ayr	N12	D4	22.85	78	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Baden	N7	D1	83.97	429	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Beamsville	N1	D4	152.07	1,492	1.20	2.11	1.56	2.11	**2.50**	2.72	3.78	4.67	5.33	6.94	8.39	3	1.5	10
Belle River	N15	D2	37.08	370	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Blenheim	N14	D3	59.28	313	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Bond Lake	N3	D3	153.14	1,564	1.10	1.98	1.46	1.98	**2.36**	2.55	3.54	4.39	5.01	6.56	7.89	3	1.5	10
Bothwell	N14	D10	34.55	133	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Brampton	N13	D2	43.77	167	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Brant	N12	D1	114.92	550	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Brigden	N18	D8	33.31	116	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Burford	N12	D2	52.61	257	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Caledonia	N2	D5	97.28	495	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Chatham	N14	D1	138.00	797	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Chippawa	N1	D7	23.41	179	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Clinton	N8	D11	68.44	361	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Delaware	N4	D3	126.84	652	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Dorchester	N4	D1	108.89	589	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Dresden	N14	D12	24.22	77	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Drumbo	N12	D5	57.72	257	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Dundas	N2	D1	95.49	738	1.30	2.21	1.63	2.21	**2.64**	2.85	3.96	4.91	5.60	7.33	8.82	3	1.25	10
Dunnville	N1	D9	17.55	98	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
				†	1.00	1.86	1.38	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3.5	2	10

Dutton	N11	D3	44.63	170	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Elmira	N7	D3	22.12	87	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Elora	N5	D4	45.65	255	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Essex	N15	D7	86.57	457	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Exeter	N4	D6	67.60	634	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Forest	N18	D6	36.92	146	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Galt	N6	D2	39.83	317	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Georgetown	N5	D2	56.32	272	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Goderich	N8	D2	46.37	186	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Grantham	N1	D2	59.96	822	1.00	1.50	1.25	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3	1.5	10
Guelph	N5	D3	96.87	550 ‡	1.50 1.20	2.33 2.15	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Haldimand	N2	D8	48.43	273	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Harriston	N8	D5	23.17	59	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Harrow	N15	D4	67.55	622	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Ingersoll	N10	D3	175.73	602	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5.5	2	10
Jordan	N1	D3	36.19	389	1.05	1.86	1.38	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3	1.5	10
Keswick	N3	D5	53.42	1,021	1.20	2.10	1.55	2.10	**2.50**	2.70	3.75	4.65	5.30	6.95	8.35	4	2	10
Kingsville	N15	D5	120.67	1,377	1.00	1.80	1.25	1.98	**2.36**	2.55	3.54	4.39	5.01	6.56	7.89	3	2	10
Listowel	N8	D8	78.90	336	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
London	N4	D2	190.37	2,124	.90	1.65	1.15	1.75	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3	1.5	10
Lucan	N4	D5	31.89	131	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Lynden	N2	D2	49.39	256	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Markham	N3	D1	111.01	856	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Merlin	N14	D15	83.60	319	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Milton	N13	D3	59.75	344	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Milverton	N8	D9	39.98	170	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Mitchell	N8	D7	68.03	349	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4.5	2	10
Newmarket	N3	D4	63.15	358	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Niagara	N1	D1	53.32	309	1.20	2.15	1.63	2.21	**2.64**	2.85	3.96	4.91	5.60	7.33	8.82	3	1.5	10
Norwich	N10	D1	108.66	469	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Oil Springs	N18	D3	18.74	116	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Palmerston	N8	D6	33.46	110	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Petrolia	N18	D5	14.16	60	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Preston	N6	D1	128.40	1,000	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.25	10

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*See footnote on page 88. †Lowbanks extension. ‡Suburban area.

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES—OCTOBER 31, 1933

NIAGARA SYSTEM—Continued

Rural power district			Miles of line	No. of consumers	Rural rates													
					Class and gross monthly service charge											Gross consumption charge		Prompt payment discount
					1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	1st 14 hrs. use of class demand min. 30 kw-hrs.	All additional	
					$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	cents	cents	%
Ridgetown	N14	D2	92.90	689	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
St. Jacobs	N7	D2	63.30	375	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
St. Marys	N9	D1	104.43	422	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
St. Thomas	N11	D1	160.85	1,121	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Saltfleet	N17	D1	99.06	1,587	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Sandwich	N15	D1	129.19	2,074	1.00	1.86	1.38	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3.5	1.5	10
Sarnia	N18	D4	87.33	1,193	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Scarboro	N3	D2	75.26	731	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Seaforth	N8	D10	18.90	149	1.10	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Simcoe	N12	D6	64.60	348	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Stamford	N1	D6	10.13	297	1.30	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Stratford	N8	D4	33.20	224	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Strathroy	N4	D4	71.64	221	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Streetsville	N13	D1	91.41	442	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Tavistock	N8	D1	69.99	283	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Thamesville	N14	D11	62.25	269	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Tilbury	N14	D14	59.55	261	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Tillsonburg	N10	D4	109.05	572	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3.5	2	10
Wallaceburg	N14	D13	85.91	548	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Walsingham	N12	D7	96.48	434	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Walton	N8	D3	40.04	261	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Waterdown	N2	D3	70.08	938	1.20	1.89	1.39	1.89	**2.22**	2.44	3.33	4.17	4.72	6.22	7.44	2.5	1	10
Waterford	N12	D3	74.37	293	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Watford	N18	D7	15.00	56	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Welland	N1	D5	282.08	2,615	1.00	1.86	1.38	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3	1.5	10
Woodbridge	N16	D1	184.04	967	1.45	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	2	10
Woodstock	N10	D2	125.50	658	1.30	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	2	10

Total, Niagara System, 6,375.15; 44,540.

*See footnote on page 88.

GEORGIAN BAY SYSTEM

Alliston	S32	D1	22.25	139	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Arthur	E13	D2	2.40	8	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Bala	GB13	D1	36.56	222	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Barrie	S4	D1	61.46	464	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Baysville	M10	D1	32.00	126	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Beaumaris	M7	D1	22.68	230	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Beaverton	W2	D1	24.70	331	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
				†	1.22	1.89	1.39	1.89	**2.22**	2.44	3.33	4.17	4.72	6.22	7.44			
Beeton	S33	D1	1.63	5	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Bradford	S37	D1	26.85	82	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Bruce	E19	D1	51.48	263	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Buckskin	S24	D1	1.14	16	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Cannington	W3	D1	9.21	51	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Chatsworth	E3	D1	....	22	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Cookstown	S35	D1	.50	2	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Creemore	S10	D2	30.02	132	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Elmvale	S7	D1	25.35	155	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5.5	2	10
Flesherton	E1	D1	2.56	24	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6.5	2	10
Gravenhurst	M4	D1	2.40	13	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Hawkestone	S9	D1	25.31	157	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Holstein	E7	D1	.70	9	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Huntsville	M2	D1	22.60	94	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Innisfil	S31	D1	25.62	510	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6.5	2	10
Lucknow	E24	D1	.10	2	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Mariposa	W9	D1	47.30	306 ‡	1.35 1.20	2.33 2.20	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Markdale	E1	D2	18.82	83	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6 § 8	2 2	10 10
Meaford	E14	D1	.87	5	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Medonte	S18	D1	8.57	55	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Midland	S1	D1	12.33	43	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Neustadt	E8	D1	.63	4	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Nottawasaga	S5	D1	7.84	96	1.25	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Orangeville	E12	D1	21.90	79	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Owen Sound	E2	D1	3.59	48	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Port Perry	W12	D1	46.38	345	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Ripley	E24	D2	3.91	13	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Sauble	E46	D1	10.00	46	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10

†Cedarhurst and Maple Extensions. ‡Greenbank Extension. §Berkeley Station Extension.

RURAL POWER DISTRICTS—MILES OF LINE, NUMBER OF CONSUMERS AND RATES, OCTOBER 31, 1933

GEORGIAN BAY SYSTEM—Continued

Rural power district		Miles of line	No. of consumers	Rural rates													
				Class and gross monthly service charge											Gross consumption charge		Prompt payment discount
				1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	1st 14 hrs. use of class demand min. 30 kw-hrs.	All additional	
				$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	cents	cents	%
Shelburne	E10 D1	18.32	50	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Sparrow Lake	W1 D1	31.73	243	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Tara	E15 D1	25.05	112	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Thornton	S36 D1	7.50	31	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Utterson	M8 D1	20.43	109	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10
Uxbridge	W11 D1	59.96	210	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Wasaga Beach	S10 D1	16.62	608	1.25	3.00	......	......	......	......	......	......	......	......	......	5	2	10
Wroxeter	E22 D1	34.89	276	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	8	2	10

Total, Georgian Bay System, 826.16; 5,821.

EASTERN ONTARIO SYSTEM

Rural power district		Miles of line	No. of consumers	1B	1C	2A	2B	3*	4	5	6A	6B	7A	7B	1st 14 hrs. use of class demand min. 30 kw-hrs.	All additional	Prompt payment discount
Alexandria	L15 D1	19.85	99	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Arnprior	QM10 D1	5.20	55	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Belleville	C38 D1	77.31	672	1.20	2.15	1.45	2.25	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Bowmanville	C23 D1	28.80	124	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Brighton	C6 D1	10.01	62	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Brockville	L3 D1	98.14	648	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Campbellford	C11 D1	22.00	77	1.20	2.15	1.50	2.25	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Carleton Place	H5 D1	.58	1	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Chesterville	L5 D1	48.10	351	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Cobourg	C13 D1	85.03	451	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Colborne	C7 D1	33.19	218	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Fenelon Falls	C30 D1	18.94	131	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Iroquois	L9 D1	88.90	442	Special.													
Kemptville	H9 D1	5.41	44	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Kingston	C44 D1	113.84	718	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Lakefield	C18 D1	25.12	91	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Lindsay	C29 D1	21.13	122	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10

Martintown	L13	D1	21.19	139	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Maxville	L14	D2	60.02	389	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7 †6	2 2	10 10
Millbrook	C25	D1	18.95	112	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Napanee	C43	D1	106.39	519	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Nepean	T1	D1	177.08	1,103	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	3	1.5	10
Newcastle	C22	D1	24.73	123	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Norwood	C31	D1	7.90	60	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Omemee	C26	D1	3.66	4	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Oshawa	C24	D1	110.27	1,519	1.00	1.86	1.38	1.86	**2.22**	2.40	3.34	4.14	4.71	6.18	7.42	3.5	2	10
Perth	H2	D1	15.13	59	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Peterborough	C20	D1	61.10	1,057	.63	1.16	.79	1.21	**1.59**	1.66	2.01	2.57	2.91	3.81	4.62	4	2	10
Prescott	L2	D1	37.50	196	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Renfrew	QM16	D1	5.50	9	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Smiths Falls	H3	D1	53.53	338	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Stirling	C35	D1	30.21	112	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Trenton	C3	D1	41.67	201	1.35	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	5	2	10
Warkworth	C49	D1	.33	6	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Wellington	C45	D1	89.46	385	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Williamsburg	L7	D1	17.29	101	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10

Total, Eastern Ontario System, 1,583.46; 10,738.

†Apple Hill section.

THUNDER BAY SYSTEM

Fort William	P10	D1	46.74	145	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10
Port Arthur	P2	D1	29.16	116	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	4	2	10

Total, Thunder Bay System, 75.90; 261.

NORTHERN ONTARIO PROPERTIES

Manitoulin District																		
Manitoulin	FM1	D1	36.40	163	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	7	2	10
Nipissing District																		
North Bay	Z4	D1	9.26	309	.90	1.40	1.03	1.40	**1.67**	1.80	2.50	3.10	3.53	4.63	5.57	6	2	10
Powassan	Z8	D1	3.40	13	1.50	2.33	1.72	2.33	**2.78**	3.00	4.17	5.17	5.89	7.72	9.28	6	2	10
Total, Nipissing District			12.66	322														

Total, all systems: Miles of line, 8,909.73. Number of consumers, 61,845.

*See footnote on page 88.

CLASSIFICATION OF SERVICES FOR RURAL POWER DISTRICTS

When contracts between the consumer and the township have been executed, users of power in townships are supplied with electric service under general classes with limitations as follows:

Class	Service	Class demand kilowatts	Phase	Volts	Fuse rating amperes (maximum)
1B	Hamlet Lighting	1.32	1	110	15
1C	“ “	2	1	220/110	35
2A	House Lighting	1.32	1	110	20
2B	Small Farm Service	2	1	220/110	35
3	**Light Farm Service**	**3**	**1**	**220/110**	**35**
4	Medium Farm Service	5	1	220/110	50
5	“ “ “	5	3	220/110	35
6A	Heavy Farm Service	9	1	220/110	100
6B	“ “ “	9	1 and 3	220/110	60
7A	Special Farm Service	15	1	220/110	According to load
7B	“ “ “	15	1 and 3	220/110	According to load

Class 1: Hamlet Service—Includes service in hamlets, where four or more consumers are served from one transformer. This class excludes farmers and power users. Service is given under two sub-classes as follows:

> **Class 1-B:** Service to residences or stores. Use of appliances over 1,320 watts permanently installed is not permitted under this class.
>
> **Class 1-C:** Service to residences or stores with electric range or permanently installed appliances greater than 1,320 watts. Combinations of residence and store supplied from one service shall be not less than Class 1-C. Special or unusual loads will be treated specially.

Class 2A: House Lighting—Includes service to all residences that cannot be grouped as in Class I. This class excludes farmers and power users.

Class 2B: Farm Service, Small—Includes service for lighting of buildings and power for miscellaneous small equipment and power for a single-phase motor not exceeding 2 horsepower or an electric range (motor and range not to be used simultaneously) on a small farm of fifty acres or less.

Class 3: Farm Service, Light—Includes service for lighting of farm buildings, power for miscellaneous small equipment, power for single-phase motors not exceeding 3 horsepower and electric range. Range and motor are not to be used simultaneously.

Class 4: Farm Service, Medium Single-Phase—Includes service for lighting of farm buildings and power for miscellaneous small equipment, power for single-phase motors up to 5-horsepower demand or an electric range. Range and motor are not to be used simultaneously.

Class 5: Farm Service, Medium 3-Phase—Includes service for lighting farm buildings and power for miscellaneous small equipment, power for 3-phase motors, up to 5-horsepower demand, or an electric range. Range and motor are not to be used simultaneously.

Class 6: Farm Service, Heavy—Includes service for lighting of farm buildings and power for miscellaneous small equipment, power for motors up to 5-horsepower demand and an electric range, or 10-horsepower demand without an electric range. Single- or three-phase service will be given at the discretion of the Hydro-Electric Power Commission of Ontario.

Class 7: Farm Service Special—Includes service for lighting of farm buildings, power for miscellaneous small equipment, power for 3-phase motors from 10- to 20-horsepower demand and electric range. Single or three-phase service will be given at the discretion of the Hydro-Electric Power Commission of Ontario.

Note: Class 2B is the service usually supplied to small farms of fifty acres or less and Class 3 is the service usually supplied to ordinary farms of larger size. More than 90 per cent of new contracts for farm service are in one or other of these two classes.

SECTION IV

HYDRAULIC ENGINEERING AND CONSTRUCTION

The advancement of the Abitibi Canyon development to the operating stage was responsible for the major items of design and construction during the year. After resuming construction as the agent of the receiver for the company, after financial difficulties had caused a cessation of work, the Commission carried on when the province of Ontario acquired the development.

The original plans of the company provided for the immediate completion of the whole development, which was designed to accommodate five units of 66,000 horsepower each. The major part of the work was completed before the shut-down referred to above, the dam, wing walls, sluices, high water channel and power house substructure being practically completed. The programme, as modified after the Province acquired the property, provided for the completion of two units to the operating stage, and other necessary work in connection therewith. The units came into service and delivered commercial power in the summer of 1933.

At the Niagara Falls plants, only minor items of construction, completing work commenced in the previous year, required attention. At Chats falls, extensive efficiency and capacity tests were conducted. The arbitration in connection with the Kingdon Mining and Smelting company involved a large amount of field and office work as assistance to the Legal department.

In the Georgian Bay system, repairs were made to the dam at Walkerton, and investigations were made of wood-stave pipe joints, preparatory to the reconstruction of No. 1 wood-stave conduit at the Eugenia development. Repairs were also made to concrete in the dam at Nipigon.

At the request of the Public Utilities commission of the town of Almonte, plans and specifications were prepared for an extension of the town's power plant by the installation of an additional unit. The Commission's engineers also gave advice during the completion of the contract for the new equipment, and made inspections during its fabrication.

Surveys were made and plans and estimates prepared in connection with the construction of a development to supply power to mining properties in the district of Patricia.

Further assistance was given to the Department of Lands and Mines in connection with the Grand river conservation scheme.

NIAGARA SYSTEM

Queenston-Chippawa Development

The end of the last fiscal year found certain minor works in progress on the Queenston-Chippawa development, which were completed shortly after that time. Among these were repairs to the Michigan Central Railroad bridge over the power canal at Montrose, and work on the Victoria Avenue bridge.

Ontario Power Plant

At the Ontario Power plant, scaling of loose rock from the cliff behind the generating station continued, and was completed at the end of December. A dry stone wall was also built on the rear wall backfill to protect the power house roof from any material on the cliff that may become loosened by weathering and be dislodged. This and certain site improvements were completed early in January.

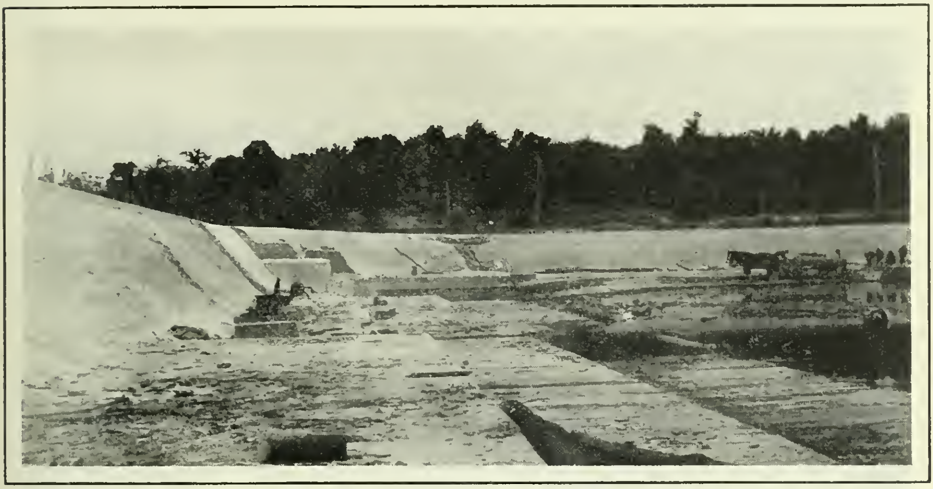
An inspection of the steel plate of certain of the penstocks was made, and a report prepared on the protective measures to retard deterioration of the outer surface. The penstocks at the Ontario Power plant are erected in shafts and tunnels, extending downward and outward from the three main conduits. Five shafts and tunnels house penstocks Nos. 1 to 10, two in each tunnel. In a number of the tunnels, the void around the penstocks has been filled with concrete to protect the penstocks. The inspection referred to was carried out in the other tunnels, for the purpose of determining the necessity, and the measures to be adopted, for preservation of the unprotected penstocks.

Chats Falls Development

Only minor items of construction work were carried out during the past year, the plant having been completed during the previous year. Hydraulic tests of various kinds were conducted, having in view the determination of the turbine capacity and efficiency, the plant capacity under low head, and the plant capacity at periods of low flow.

Turbine efficiency and capacity tests were conducted on unit No. 3. Units 4, 7 and 8 had been tested in the previous year, and on these, consistent results were obtained. The tests on unit No. 3 confirmed the results obtained on the other units.

The quantity of water used per unit at this plant is in excess of 6,000 cubic feet per second at full gate. The quantity of water to be measured and the design of the plant combined to make accurate measurements more difficult than is usually the case. The Gibson time-pressure method of water measurement had been applied in the majority of the tests conducted by the Commission, especially in those cases where a reasonable length of supply pipe was available within which the method might be applied. The supply pipes at Chats falls are much shorter than any in which the method had been used previously, but application of the method proved to be quite successful, in fact the results obtained on the different units were unusually consistent. The results of these tests, in addition to determining that the turbines met the manufacturers' guarantees, provide information



WALKERTON DAM—SAUGEEN RIVER
Spillway and apron cribs

of great value in connection with operation of the plant to obtain the maximum output from the available quantity of water. The tests also permit accurate records of river discharge to be kept.

Assistance was given to the Legal department in connection with the arbitration on the claims of the Kingdon Mining and Smelting company for compensation for lands expropriated and for damages to lands and mining properties. The hearings in connection with this arbitration lasted for more than sixty days, and involved a very great amount of computation and field work on the part of this department.

GEORGIAN BAY SYSTEM

Inspection of the wood-stave conduit installed in 1914 at the Eugenia development indicates that its replacement will be necessary in the near future. The Commission's experience during the past twenty years with wood-stave pipes has indicated certain weaknesses in the usual type of end joints used. Accordingly, with the co-operation of manufacturers, investigations have been proceeding for some months on designs and devices to overcome the tendency of the stave ends to split or rot. It is proposed to build a section of pipe incorporating the various designs of joints, and subject it to suitable tests.

Repairs were carried out on the dam on the Saugeen river at Walkerton. Erosion under and downstream from the dam allowed leakage to take place equivalent to the water capacity of one of the turbine units. Several attempts to plug the leak have been made by former owners, but in none of these was anything more than temporary relief obtained.

As the erosion had taken place in the vicinity of the original sluiceways, the sluiceway was closed and converted into a spillway, below which apron cribs were built. Cribs were built on the east bank to protect the land there from erosion when the sluiceways are open. Protecting cribs were built also in an eroded area downstream from the sluiceways.

A disused narrow-gauge railway bridge near the Hanover plant, communicating with marl beds west of the river, which created a flood hazard, was removed.

ABITIBI CANYON POWER DEVELOPMENT
Forebay, dam and sluice gate from west shore above dam

NORTHERN ONTARIO PROPERTIES

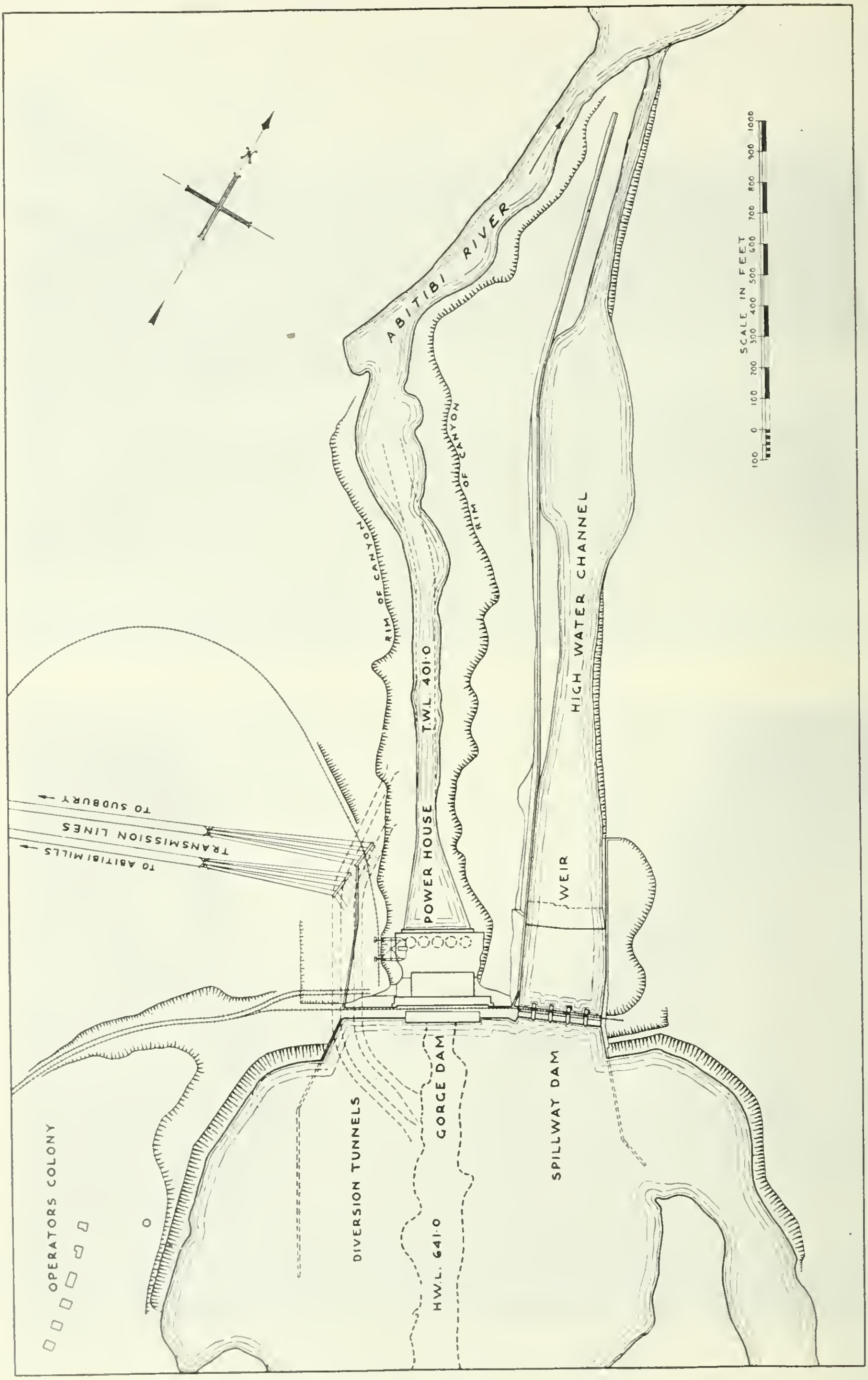
Abitibi Canyon Development

The major items of construction work during the year were in connection with the Abitibi Canyon development, which has now reached the operating stage. This development, on the Abitibi river, is situated near Fraserdale, sixty-five miles northerly from Cochrane. Construction was commenced in 1930 by the Ontario Power Service corporation, a subsidiary of the Abitibi Power and Paper company. Active construction ceased in the summer of 1932, due to financial difficulties. The Ontario Power Service corporation was placed in a receivership in November, 1932, and construction of the Canyon development was continued by the Commission for the Receiver until the development was taken over by the province of Ontario early in 1933.

Active construction commenced in August, 1930, and by July, 1932, when financial difficulties caused the work to be shut down, the plant was rapidly nearing completion. The concrete in principal structures was all in place, except for about 850 cubic yards in the dam, the wing walls at each end of the dam, and a small protection wall on the down-stream side of the dam. An additional 3,000 cubic yards of concrete was required for bulkheads behind the closure gates in the unwatering tunnels, and tailrace excavation to the extent of 57,000

ABITIBI CANYON POWER DEVELOPMENT
High water channel, looking downstream to river

ABITIBI CANYON POWER DEVELOPMENT
Tailrace from Power House—December, 1933


ABITIBI RIVER
RIM OF CANYON
RIM OF CANYON
T.W.L. 401·0
POWER HOUSE
HIGH WATER CHANNEL
WEIR
TO SUDBURY
TRANSMISSION LINES
TO ABITIBI MILLS
OPERATORS COLONY
DIVERSION TUNNELS
GORGE DAM
SPILLWAY DAM
H.W.L. 641·0
SCALE IN FEET
100 0 100 200 300 400 500 600 700 800 900 1000

ABITIBI CANYON POWER DEVELOPMENT - NORTHERN ONTARIO cubic yards was still to be removed. The erection of the hydraulic units and equipment was about 70 per cent completed, and nearly everything was delivered for units 1 to 4, as well as a large part of unit No. 5. Delivery and erection of electrical equipment was not as far advanced. The power house roof and part of the downstream wall were temporary structures only.

The decision was reached to continue construction so far as to place two units in operating condition, the equipment for the remaining three units being stored at the development, to be used when load conditions required their installation. Work was prosecuted vigorously from the beginning of the fiscal year, November 1, 1932, and by the end of March the tailrace excavation was completed and the cofferdam and rock at the lower end of the tailrace removed by blasting. The power house superstructure was practically completed, with the exception of the application of the roofing material and the guniting of the slabs over the penstocks.

Good progress had been made on the installation of equipment. Turbine unit No. 1 was in place and aligned, the generator unit in place, and the bearing being assembled. All governor piping in the turbine pit, including servomotors, had been opened up and thoroughly cleared, and the cleaning of the governor piping above the power house floor was in progress. Work was proceeding on unit No. 2.

Unit No. 1 was turned over for the first time on May 4, and delivered commercial load on May 24, 1933. No. 2 unit was placed in service on August 27, 1933. A description of the development follows.

The Abitibi Canyon development is situated on the Abitibi river in the James Bay drainage area, about sixty-five miles northerly from Cochrane. The river drains an area of 8,440 square miles above the power site, and has an estimated average flow of more than 9,000 cubic feet per second. The site possesses natural advantages for the construction of a power development, in that the river channel there is confined to a narrow gorge, the rock walls of which rise about 170 feet above the river bed. The dam concentrates the natural fall in about six miles of river upstream therefrom, and the tailrace excavation regains most of the fall from the dam site to the pool at the head of Eleanor rapids, about three-quarters of a mile downstream. The normal headwater level will be 641, and normal tailwater 401, and the head 240 feet. The accompanying plan supplements this description and shows the relative positions of the various structures and waterways.

The dam is a concrete gravity type structure, extending across the main section of the canyon, with a sluiceway section adjoining it at the easterly end. The closure is completed by a concrete retaining wall and rolled earth fill at the west end of the dam, and a similar retaining wall and earth fill at the east end of the sluiceway section.

The sluiceway section, which is designed to discharge the maximum anticipated flood discharge of the river, consists of five gates, each having a clear opening of 45 feet, with sills at elevation 616, each provided with an independent motor-driven hoist. Heaters are provided for the checks, and space heaters in the gates, which are sheeted on the downstream face, to assure satisfactory winter operation. The sluiceways discharge into a high water channel, extending for about 3,000 feet along the east bank of the river, and discharging into the pool above Eleanor rapids. The high water channel is located well back from the edge of the east bank of the canyon, and is formed partly by excavation in rock and partly by the construction of gravity wall sections along the sides where necessary to prevent overtopping.

The power house extends completely across the gorge and adjoins the main dam section. The generator room is about 250 feet by 50 feet, and in the rear of this, partly superimposed on the lower slope of the dam, is accommodation for control room, offices, low tension switching, machine shop, pumps and other auxiliaries. An elevator in a shaft on a slope, which conforms to the downstream face of the dam, extends from the turbine deck to the headworks.

The power house is designed for an ultimate installation of five main units, two of which are now completed. Each of the turbines has a rated capacity of 66,000 horsepower at 150 r.p.m. under a net head of 237 feet. Each turbine is equipped with an 18-foot steel plate penstock, the intake being located in the upper portion of the gravity section of the main dam, whence the penstocks lead down from the face of the dam to the power house substructure, where they are joined to the steel plate scroll cases incorporated therein. The penstocks are protected from low temperatures by a continuous roof, which extends over the entire penstock area. This roof is supported on steel columns, and consists of I-beam purlins carrying aerocrete slabs, which are protected from the weather by a heavy coating of gunite.

Each turbine is directly connected to a 45,000 kv-a., 85-per-cent-power-factor, 13,800-volt, 25-cycle generator, with main and sub-exciters.

The plant is served by a standard gauge railway spur from the site to Fraserdale, where it joins the T. and N.O. railway. Accommodation for the operating staff is provided in houses erected on high ground on the west bank of the river.

HYDRAULIC INVESTIGATIONS

Mississippi River

During the year, the Public Utilities commission of the town of Almonte asked for engineering assistance in connection with an extension of its power development on the Mississippi river within the town. The town owns two plants, only one of which is operated at present. This plant contains a single unit, having a turbine with a rated capacity of 550 horsepower and 550-kv.a. generator, but the power canal and power house substructure are designed for the installation of a second unit.

The Commission's engineers made an examination of the existing plants, and gave advice as to the type of equipment that would be most suitable for the town's requirements. Following this, plans and specifications were prepared

KAGAMI FALLS—ALBANY RIVER
An undeveloped power site in Northern Ontario

covering one 650 horsepower (30-foot head) turbine and generator, with governor and other appurtenances. Tenders were called for on this equipment and advice given in connection with the completion of the contract and inspections made throughout the period of fabrication of the equipment.

Albany River

Pursuant to requests for studies and estimates for power supply required by certain mining properties in the district of Patricia, preliminary surveys were made of three possible power developments on the Albany river. The locality for which a power supply is desired lies about ninety miles by aeroplane north of Savant lake station on the Canadian National railway, and one hundred and twenty miles by winter road.

Three power sites on the Albany river, about twenty-five miles south of the properties to be served with power, were investigated in the summer of 1933, and preliminary surveys made, with a view to estimating the cost of developing about 1,000 horsepower, the anticipated demand of the district. The three sites surveyed are Cedar rapids, at the outlet of lake St. Joseph, and Triple falls and Kagami falls, respectively twenty and twenty-five miles downstream. At each of the first two, the available head is 15 feet, and at Kagami falls 21 feet. Transportation of material and equipment to the sites is difficult and expensive. Heavy parts may be taken in only by winter road; for general supplies, aeroplanes may be utilized. The plants, therefore, are designed as far as possible to reduce transportation costs. Preliminary designs and estimates have been prepared.

Grand River Flood Prevention

Assistance was given to the Department of Lands and Forests of the province of Ontario in connection with proposed storage works on the Grand river.

Attention has been given to propositions for flood prevention on the river for many years, the Commission making certain surveys and investigations in that connection some twenty years ago. The Department of Lands and Forests requested the assistance of the Commission in a complete investigation of the problems of alleviating flood damage, of maintenance of a higher flow in the summer months, etc. A report, prepared jointly by the chief hydraulic engineer of the Commission and the deputy minister of the Department proposed that certain storage works be constructed, and investigated the effects of these in reduction of flood peaks and in improvement of low water flows. Subsequently, after submission of the report, the Legislature passed an act, known as the Grand River Conservation Commission act, to provide the machinery whereby the interested municipalities in the Grand River watershed might co-operate to carry out the works or any desired part of them. During the past year, progress has been made on further surveys, borings and examination of dam sites, and on the preparation of plans, specifications and estimates for the initial storage reservoir in the conservation scheme.

SECTION V

ELECTRICAL ENGINEERING AND CONSTRUCTION
(STATION SECTION)

NIAGARA SYSTEM

Generating and Switching Stations

Generating Stations on the Niagara River—The relaying system on the 110,000-volt lines at Queenston generating station is being improved and definite-time relays were purchased and installed on each of the generator circuits.

MacLaren Development—The necessary engineering work was carried out in co-operation with MacLaren-Quebec Power Company for the receipt of the first block of 20,000 horsepower under contract for delivery on July 1, 1933.

Transformer and Distributing Stations

Niagara District—At Ontario Paper (Steam) transformer station, referred to in last year's Annual Report as under construction, the transformers, electric steam generators and all switching and controlling equipment were installed, and were placed in service on February 2, 1933. Each of the three electric steam generators is capable of generating 90,000 pounds of steam per hour and is designed for a pressure of 200 pounds.

Temperature-measuring equipment indicates the hottest-spot temperature in the transformers and permits safe loading of the transformers on a temperature basis. In this way advantage may be taken of the low temperature of the cooling-water in winter and the transformers overloaded in order to obtain more steam during that season when it is required.

There are no high-voltage oil circuit-breakers at the transformer station. In case of emergency the 110,000-volt line may be cleared by closing a solenoid-operated, single-pole, ground-switch which effectively grounds the line causing an oil circuit-breaker to open promptly at Queenston generating station. A low-voltage oil circuit-breaker is located in each steam-generator circuit which opens automatically to clear the respective feeder in case of ground or short-circuit on a generator or feeder, and in case of failure of a circulating-pump circuit.

In approximately four months from the time this work was started the station was in service.

Late in October authority was given to proceed with the erection of a transformer station including an electric steam generator at Provincial Paper Limited plant at Thorold and another at Interlake Tissue Mills Company Limited plant at Merritton. These stations when completed will enable the respective companies to generate steam for their manufacturing processes and in so doing put to beneficial use, under special contracts, a portion of the system reserve power capacity at such times as it may be available.

There will be one three-phase, 7,500-kv-a. transformer and a 7,500-kw. electric steam generator installed at each station. The generators have already been purchased and the transformers and switching equipment will be purchased in November, 1933.

The Thorold distributing station and Corbett distributing station on the Dominion Power division were dismantled. Changes were made in the metering equipment at Empire Cotton distributing station and at Page Hersey Tubes Limited, Welland.

Hamilton and Dundas District—At Hamilton Beach transformer station the relays on the 110,000-volt lines to Queenston generating station and Toronto-Strachan and Dundas transformer stations were replaced by high-speed, distance, directional, phase and ground relays and a fence was installed around the lightning-arresters. Improvements were made to the fencing at Waterdown, Hagersville, Decewsville and Lynden distributing stations and the electrical-grounding system was changed.

Toronto and York District—At Toronto-Strachan transformer station relaying equipment is being installed for differential protection on the 110,000-volt bus, and high-speed selective relays on the high-voltage lines to Toronto-Bridgman-Davenport, Toronto-Wiltshire, Hamilton-Beach and Dundas transformer stations. Two 110,000-volt potential-transformers were transferred to the station for this purpose. The current capacity of two of the 110,000-volt line-entrances and part of the bus was increased.

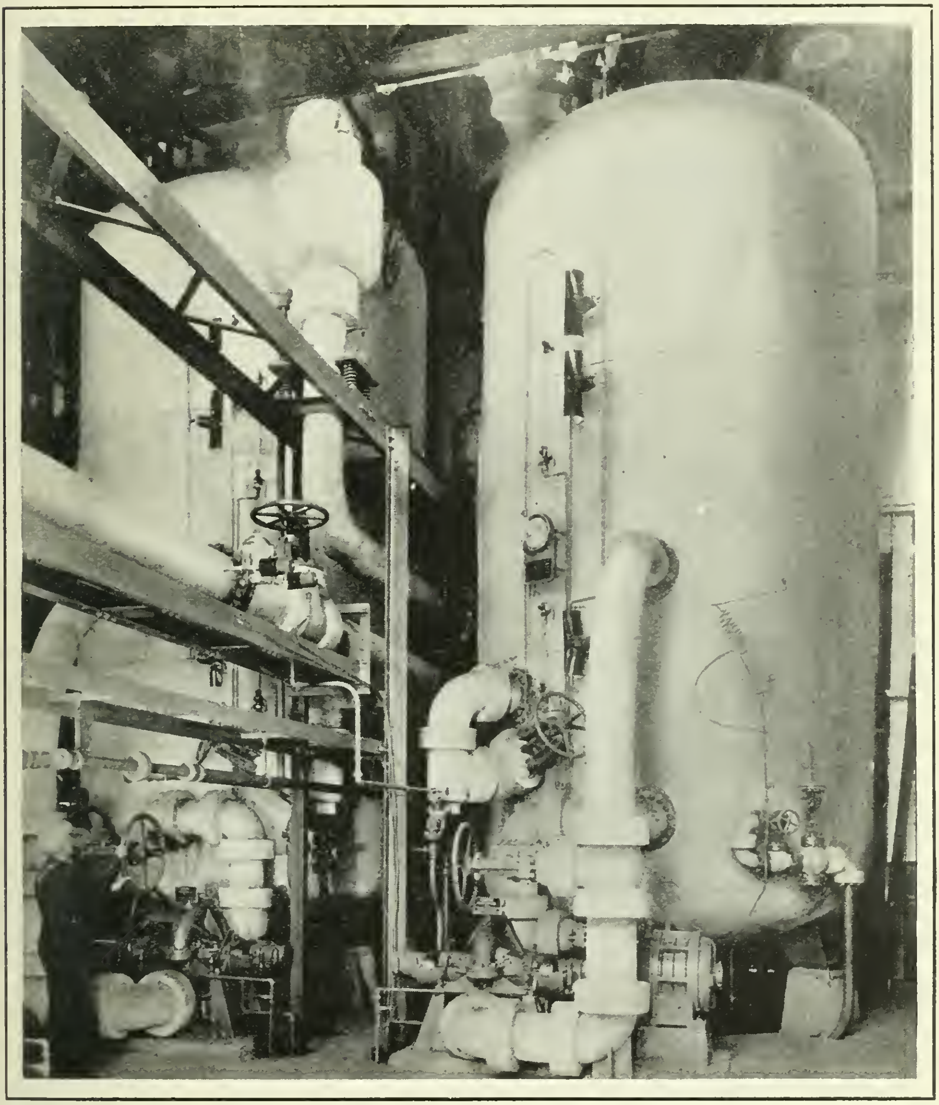
At Toronto-Bridgman-Davenport transformer station the high-voltage neutral was grounded through a water resistor and high-speed relays were installed on the 110,000-volt line to Toronto-Strachan transformer station. Changes were made in the 13,200-volt cable-connections.

At Toronto-Wiltshire transformer station improvements were made in the metering and relaying equipment. High-speed relaying equipment was installed on the line to Toronto-Strachan transformer station for which a new 110,000-volt potential-transformer was purchased and installed.

At Toronto-Leaside transformer station improvements were made in the relaying equipment and engineering work was carried on in preparation for future installation of No. 7 and No. 8 transformer banks.

At Mount Joy and Sharon distributing stations changes were made to the fencing and in the latter station the current-transformers were replaced by larger-capacity units.

At New Toronto distributing station the 2,300-volt disconnecting-switches and lightning-arresters were replaced by more modern type units and improvements were made to the outdoor bank of three 1,500-kv-a. transformers.



ELECTRIC STEAM GENERATORS

Two of three, 30,000-kw., 3-phase, 25-cycle, 6,600-volt steam generators for Ontario Paper Company. Maximum operating pressure 200 lbs. per square inch

London District—Air filters and carbon-dioxide, fire-protection apparatus were installed on the synchronous-condenser at London transformer station.

Improvements were made to the fencing and grounding system at Thamesford, Ailsa Craig, Glendale, Delaware, Broughdale, and Lucan distributing stations. At the latter two stations necessary changes were also made in some of the electrical equipment.

Guelph District—The graphic wattmeters at Acton distributing station were replaced by more suitable type.

Preston District—Two original 110,000-volt oil circuit-breakers were replaced by two of modern type transferred from Toronto-Bridgman-Davenport transformer station.

Kitchener District—At Kitchener transformer station special thermal instruments were installed on the Kitchener municipal feeders to enable the total load to be read on meters situated in the municipal station.

Stratford District—At Stratford transformer station five inadequate 26,400-volt oil circuit-breakers were replaced. A new 450-ampere grounding reactor for grounding the 26,400-volt bus was purchased and installed outdoors. This reactor is used with the improved relaying system which was also recently placed in service.

St. Marys District—At St. Marys transformer station one 110,000-volt oil circuit-breaker was replaced by a modern unit transferred from Toronto-Bridgman-Davenport transformer station.

Woodstock District—At Beachville distributing station the necessary equipment for a second 13,200-volt feeder was purchased and installed.

St. Thomas District—The work under way at St. Thomas transformer station last year was completed and placed in service.

At Aylmer distributing station a 4,000-volt switching structure was erected, adjacent to the station, for sectionalizing the feeders to the various load centres.

Kent Transformer Station—At Bothwell distributing station improvements were made to the fencing and grounding system.

St. Clair District—At Watford distributing station changes were made in the meter connections and the graphic wattmeter was replaced.

At Arkona and Thedford the metering equipment was altered to meter 8,000-volt service instead of 4,000-volt service.

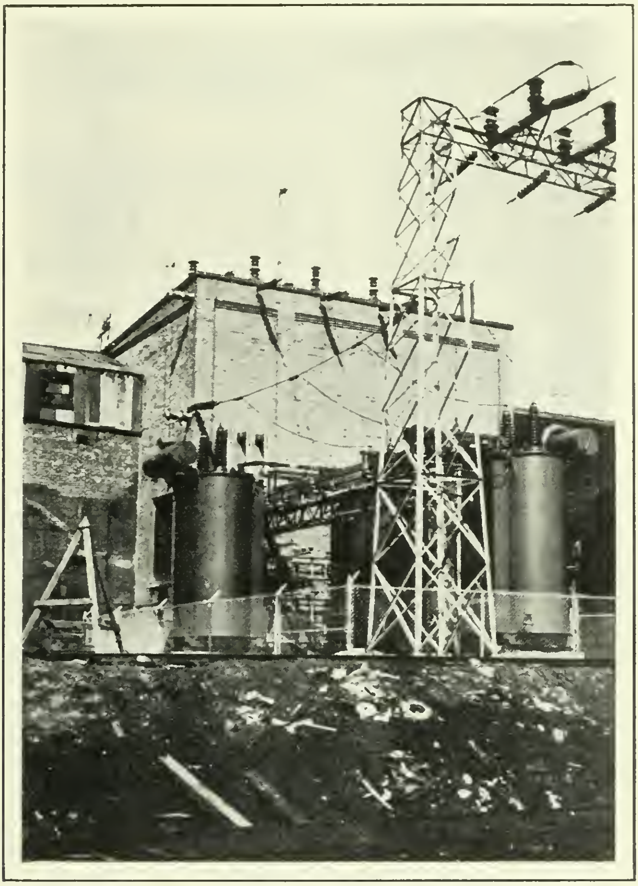
At Sarnia municipal station No. 2, air-break switches were purchased and installed on the 26,400-volt line into the station and in the bus between No. 3 and No. 4 banks.

GEORGIAN BAY SYSTEM

Severn District—Extra accommodation was provided in the operators' cottages at Big Chute generating station and improvements were made to the sewage-disposal system..

Eugenia District—At Kincardine distributing station a bank of three new 250-kv-a. transformers was purchased and installed replacing the original bank of three 125-kv-a. units. The latter units were transferred to system reserve.

At Shelburne distributing station improvements were made to the grounding system, a 22,000-volt air-break switch was purchased and installed outside of the station and metering equipment was installed on the Hornings Mills feeder. At Owen Sound distributing station improvements were made to the grounding system.



TRANSFORMER STATION—ONTARIO PAPER COMPANY
Outdoor layout of 110,000-volt station supplying current to electric steam generators

Wasdells District—At Wasdells generating station water-connections were made to the Superintendent's house and generating station and a sewage-disposal plant was installed.

Muskoka District—At Gravenhurst distributing station improvements were made to the station grounds.

Bala District—At Bala generating station a new structure was erected opposite the present Bala generating station and the step-up transformers feeding power to Port Carling and McTier were moved from their former situation and installed on pads at the new structure, with the necessary switching equipment. The original structure was dismantled.

EASTERN ONTARIO SYSTEM

110,000-volt Transformer Stations—Telemetering equipment was purchased and installed between Val Tetreau switching station and Ottawa transformer station, the meters being placed in the latter station. The installation will give a graphic record of the total 110,000-volt, 60-cycle power received from Gatineau Power Company.

Central Ontario District—A bank of three new current-transformers was installed at Ranney Falls generating station and improvements were made in the relaying system.

At Heely Falls generating station changes have been made in the installation of the metering equipment.

At Brighton, Lakefield, and Cobourg distributing stations changes were made in some of the metering equipment.

At Millbrook, Madoc, Belleville No. 1 and Warkworth distributing stations and Belleville switching station improvements were made in the fencing of the grounds.

At Oshawa distributing station the concrete walls of the original cooling-pond were removed, the hole was filled in and the grounds were levelled to conform with the adjacent grounds.

At Kingston distributing station a 1,500-kv-a., three-phase transformer was installed, replacing a 750-kv-a. unit which was transferred to system reserve. The current-transformers were correspondingly replaced by larger units.

At Kingston switching station the relaying equipment was improved.

St. Lawrence District—At Williamsburg distributing station a second 100-kv-a., single-phase transformer obtained from system reserve was installed in parallel with the present transformer.

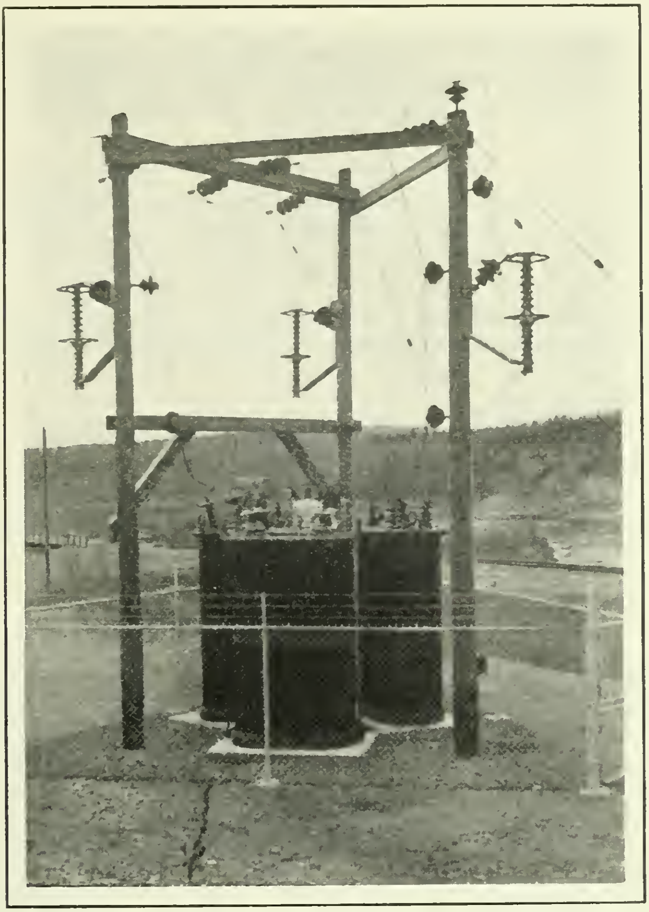
A new 225-kv-a. distributing station was installed at Maxville to supply power to the town of Maxville and the rural power district. Three 40-kv-a., single-phase transformers originally at Omemee distributing station were rebuilt for 75-kv-a. capacity and transferred to Maxville for this installation.

At Apple Hill distributing station, 4,000-volt metering equipment was installed on the rural feeder supplying a portion of Maxville rural power district.

Rideau District—At the request of the Almonte Public Utilities Commission, engineering assistance was given in the preparation of specifications for, and in the purchase of a new 550-kv-a. generator for its hydro-electric plant.

THUNDER BAY SYSTEM

Transformer Stations—A step-up transformer station was installed outside the Cameron Falls generating station for the purpose of delivering power at 33,000-volts to Northern Empire Mines Limited about 48 miles northeasterly. Three 400-kv-a., 33,000/11,000-volt, single-phase transformers were transferred from the Madawaska system and used for this installation with the necessary switching, metering and controlling equipment. Power is supplied from the 12,000-volt bus in the generating station.



TRANSFORMER STATION AT CAMERON FALLS, NIPIGON RIVER

At the Northern Empire Mines Limited station, metering equipment was installed on the low-voltage feeders for metering the load supplied to this customer.

Engineering and other assistance at the request of the Northern Empire Mines Limited was rendered the Company in the design and construction of its step-down sub-station.

Port Arthur rural distributing station was installed near Port Arthur transformer station to supply single-phase, 6,600-volt power to the beach district north-east of the city. A 75-kv-a. transformer obtained from Georgian Bay system reserve was used.

Fort William rural distributing station was installed to supply 8,000-volt, three-phase power to Fort William rural power district from the 2,300-volt distribution lines. Three new 50-kv-a., 4,600/2,300-volt single-phase transformers were purchased for the installation.

At Port Arthur rural distributing station, which supplies single-phase power to the rural power district north of High street, a 37½-kv-a., 2,300/4,600-volt, single-phase transformer was purchased and installed in the feeder to permit grounding it, and to isolate it from the ungrounded distributing system.

At Port Arthur transformer station high-speed relaying equipment was installed on the 110,000-volt and 22,000-volt lines terminating at the station. A rearrangement of the switching equipment was made on the three out-feed 110,000-volt lines.

At the Great Lakes Paper Company's plant at Fort William two electric steam generators and 2,300-volt switching, controlling and metering equipment were installed and placed in operation under a contract with the company which permits it to utilize reserve electric power capacity at such times as it may be available, to generate steam required in its manufacturing processes. The electric steam generators are each rated at 8,000 kw., 2,300 volts, and are suitable for operation under 200 pounds steam working pressure. The Company is using its own transformers to supply the power to the generators from the Commission's 110,000-volt lines.

At the Provincial Paper, Limited, plant at Port Arthur a 24,000-kv-a. transformer station is being installed for a similar purpose. Two 12,000-kv-a., 60-cycle, three-phase, 110,000/6,600-volt transformers and two 12,000-kw. electric steam generators have been purchased and will be installed and in operation by the middle of November.

NORTHERN ONTARIO PROPERTIES

Abitibi District—The necessary generators, transformers and switching equipment were installed and placed in operation at Abitibi Canyon development to make available 55,000 horsepower as required for the customers on the system.

Studies and estimates were prepared in connection with the supply of power to prospective customers. (See Frontispiece.)

Sudbury District—At Stinson generating station improvements were made in the synchronizing, relaying and switching equipment.

At McVittie generating station, No. 1 generator was rebuilt with new armature coils. Surge-absorbers were purchased and installed on the Burwash feeder and improvements were made in the grounding system at the station.

At Coniston generating station improvements were made in the relaying and grounding system.

At Sudbury distributing station a spare 1,000-kv-a., single-phase transformer was purchased and installed. The 22,000-volt lightning-arrester was replaced by a more suitable unit.

Manitoulin District—Kagawong distributing station was erected on the site of Little Rapids Pulp Company's Kagawong development on Manitoulin island to supply power to the Manitoulin rural power district at 11,400 volts. Three 100-kv-a., single-phase, 60-cycle, 7,200/600-volt transformers were purchased for this installation.

ADMINISTRATION BUILDING

Tenders for the construction of an administration building were received and a report thereon was prepared. The construction of the building however was deferred by the Commission.

SECTION VI

TRANSMISSION, DISTRIBUTION AND RURAL SYSTEMS

TRANSMISSION SYSTEMS

The activities of the Commission's transmission section have been confined largely to minor detail improvements within the various systems, and to consolidation and recording of extensive construction programs and of purchases in previous years. Certain works of major importance were completed, notably the extension of the 220,000-volt system to the Ottawa river at Cumberland, where it connects with the line of the James MacLaren Company Limited from the Masson development on the Lievre river, Quebec; the building of 48 miles of 33,000-volt line out of Cameron Falls transformer station, Nipigon river, to serve the Northern Empire Mines Limited, and the serving of stations to generate steam electrically.

The transmission system, recently purchased by the Commission, which carries power from the Canyon development on the Abitibi river was taken over and incorporated in the Northern Ontario properties.

Work has progressed in the reinforcement of telephone and railway crossings in the various systems in conformity with the Board of Railway Commissioners' regulations.

The following synopsis relates to the work undertaken during the year. At the back of this report a map is included showing transmission lines and stations and relative data are tabulated in Appendix II.

NIAGARA SYSTEM

220,000-volt Lines

Between a point on the Ottawa river opposite Masson and Cumberland junction, a length of 1.33 miles of single-circuit, 220,000-volt, steel-tower line was completed. This line is of similar construction to other 220,000-volt lines of the Commission and was designed to transmit power from the Masson Power Development of the James MacLaren Company Limited to the Niagara system.

110,000-volt Lines

Between a junction established at Holland road and the Ontario Paper Company's plant at Thorold 0.66 mile of single-circuit 110,000-volt steel-tower line was completed.

44,000-volt Lines

Between Burlington and Oakville, 10.9 miles, the former D. P. & T., single-circuit, wood-pole line was removed, service to Oakville now being made over the Commission's circuits reported in 1932.

26,400-volt Lines

Between Tilbury junction and Fletcher junction a portion of the 26,400-volt circuit was removed from the telephone poles adjacent to the railway and placed on a pole line which had been previously constructed on roads, for rural circuit requirements. The revisions also included the relocation of switches and the replacement of a small portion of steel cable with No. 2 steel-reinforced, aluminum cable.

Rehabilitation of 5 sections of single-circuit, wood-pole line totalling 28.25 miles was completed in the vicinity of Dundas-Hagersville, Caledonia and Decewsville. These lines had been in operation since 1912 and poles, cross arms, etc., in most cases, were replaced.

Other Lines

At Brittania Junction two obsolete 13,200-volt air-break switches were replaced by a modern type.

At Beachville distributing station the line entrance structure was rebuilt and the line switching revised so that now two circuits enter the station.

The reinforcement of railway and telephone line crossings has been continued.

GEORGIAN BAY SYSTEM

Eugenia District

Between Crombie junction and Orangeville distributing station 16.35 miles of single-circuit, wood-pole line with telephone circuit were constructed. This new line replaces the old which had become inadequate.

Severn and Wasdells Districts

Sixteen railway and telephone line crossings were reinforced in the Severn and Wasdells Districts.

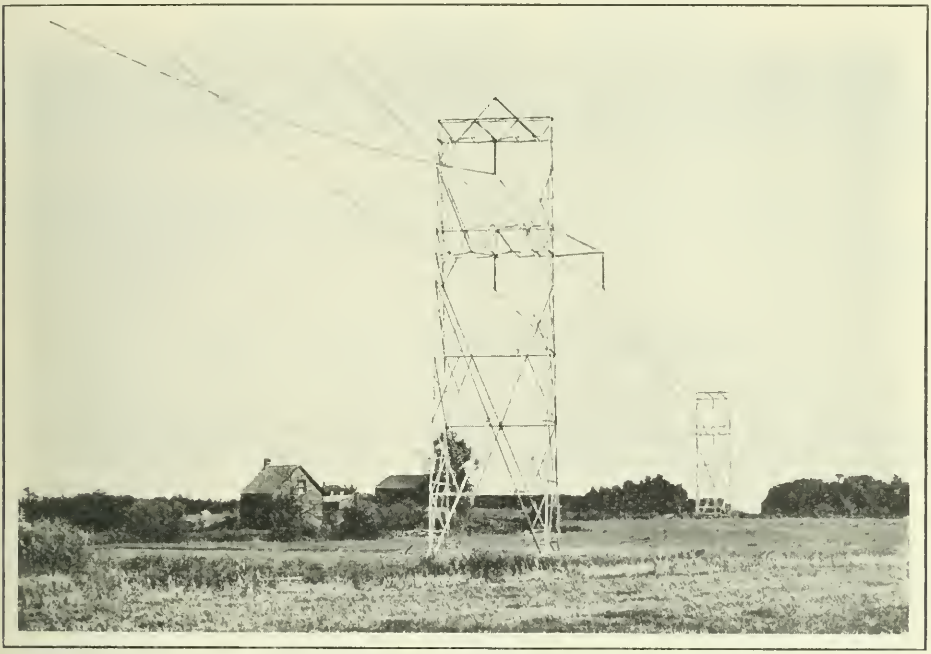
Work in these districts was confined to the reinforcement of crossings in compliance with regulations of the Board of Railway Commissioners.

EASTERN ONTARIO SYSTEM

Between Dominionville junction and Maxville distributing station, 5.17 miles, the existing line which was originally built for 44,000 volts, but operated at 4,000 volts was connected to the 44,000-volt circuit at Dominionville junction.

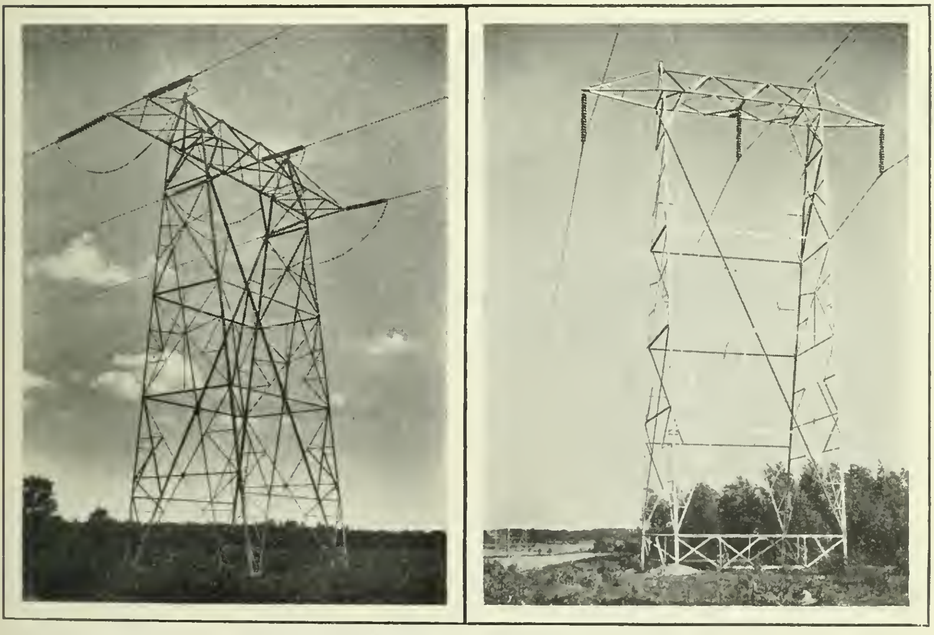
THUNDER BAY SYSTEM

Construction was completed of 48 miles of 33,000-volt, wood-pole line between Cameron Falls transformer station and the Beardmore mine. This line is single-circuit with conductors of No. 4 solid copper.



HYDRO 220,000-VOLT TRANSMISSION LINES

Transposition towers on the Beauharnois-Chats Falls line



HYDRO 220,000-VOLT TRANSMISSION LINES

BEAUHARNOIS-CHATS FALLS

Semi-anchor tower showing loop without suspension insulator

Suspension tower with ten-foot extension

TELEPHONE LINES—ALL SYSTEMS

The telephone system of the recently purchased D. P. & T. Co. was co-ordinated with that of the Niagara system. Approximately 17.5 miles of single-circuit were erected to interconnect the two systems in the vicinity of Hamilton, Decew Falls and St. Catharines.

In the vicinity of Effingham 1.40 miles of four-circuit, high-tension, telephone line were diverted to a shorter route which eliminated extensive yearly tree trimming.

DISTRIBUTION LINES AND SYSTEMS

In Appendix III is shown in tabular form the routine work carried on during the year ended October 31, 1933, by the Distribution section of the Electrical Engineering department.

Below is given a brief summary of some of the work undertaken by this section in addition to the engineering activities required in connection with the construction of new lines:

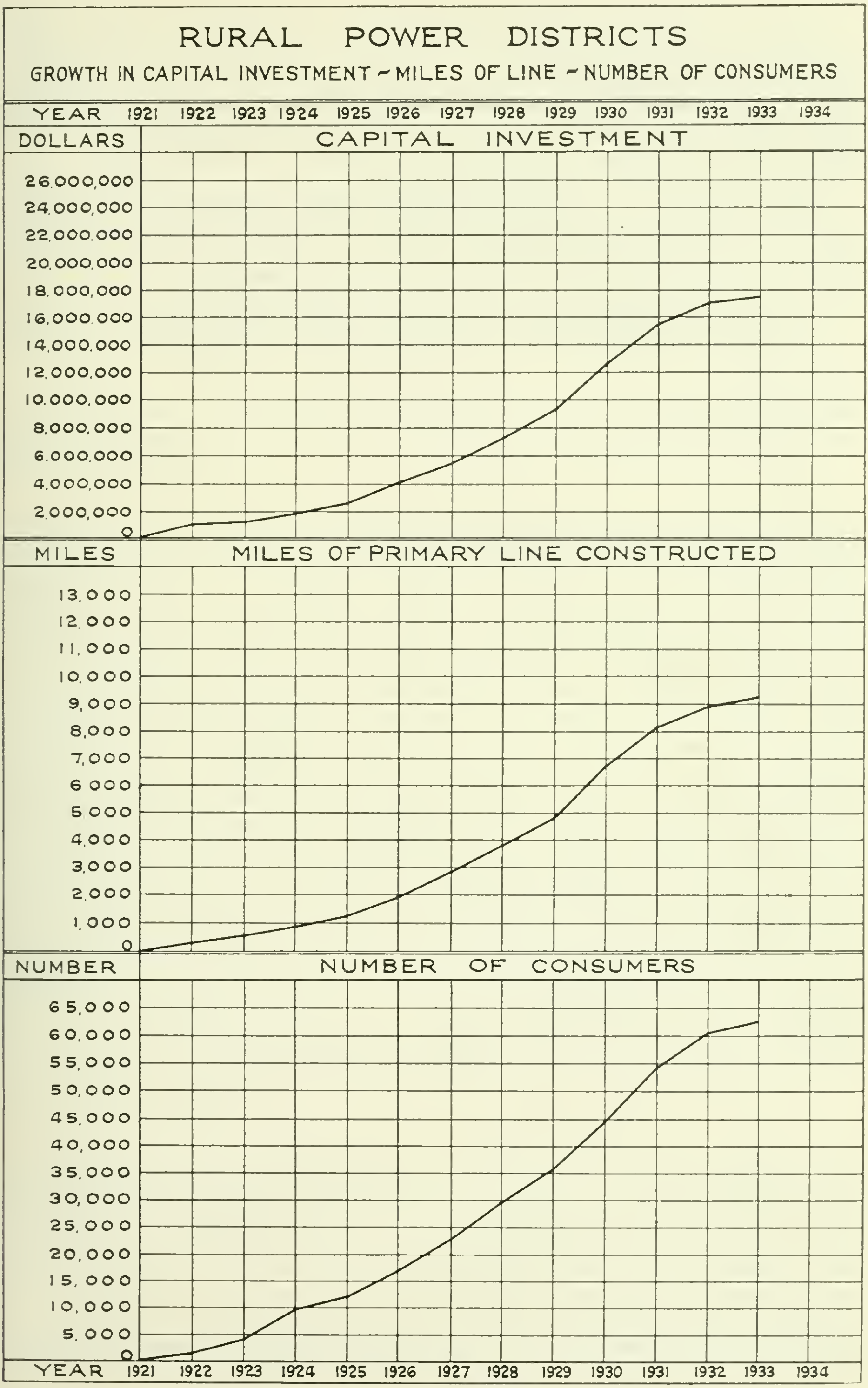
It is now twelve years since the first rural power districts were established. While it is known that wood-pole lines in general have a life greater than this period, in certain soils the decay in wood poles is very rapid. In addition, due to growth in load and distance of transmission, the conductor sizes originally installed become inadequate.

It should be noted also that before the present scheme of rural power districts was originated, there were lines built to serve rural consumers by the Commission and by the municipalities. These lines have practically all been incorporated into the rural power districts. The time has now come when it is advantageous to make a check of the physical condition of these old lines and also the adequacy of the existing conductors to give satisfactory service with the present loads.

During the past year, the poles on some 75 miles of rural and distribution feeder lines have been tested and recommendations made for the replacement of about twenty per cent of these poles. In addition, voltage and load tests were made in six rural power districts and recommendations made for the improvement of conditions in these districts.

One item of improvement has been the installation of automatic booster transformers at four locations. These automatic booster transformers are a development of the past year.

While endeavouring to locate trouble on a privately owned underground cable, a new method for finding faults on underground cable was developed. This method was successfully used where other common methods of cable testing failed owing to the nature of the fault. A current was passed through the cable which was sufficient to warm the lead sheath which is used as a return conductor. By exposing the cable at intervals and feeling the lead sheath with the hand, the point of fault can be located by the lower temperature of the sheath past the fault.



RURAL POWER DISTRICTS

GROWTH IN CAPITAL INVESTMENT – MILES OF LINE – NUMBER OF CONSUMERS

The work of ground connection improvement has been continued during the past year. To date, tests have been made on the resistance of some 23,000 grounds in 160 rural power districts. Specifications for the necessary improvement have been issued in 68 rural power districts in which there are approximately 13,000 ground connections. In the above 160 rural power districts, about 14,000 ground connections now meet the standard of 25 ohms or less.

Weekly tests were made during the year on the resistance of the ground terminals at the four test stations installed near Toronto. It is proposed to carry on these tests during the winter of 1933-34 in order to obtain more complete records of the effect of frost on the ground terminal resistance.

The results of the past years tests are now being analyzed. Upon completion of this analysis, a report of the results obtained will be issued.

SECTION VII

TESTING—RESEARCH—INSPECTION

The Testing and Inspection department has three main divisions—the Testing and Research laboratories, the Approvals laboratory, and the Electrical Inspection division.

The division of the department known as the Testing and Research laboratories comprises the Electrical laboratory, Engineering Materials laboratory, Chemical laboratory, Illumination laboratory, and the Photographic and Blueprint branches. This division supplies a testing, research and materials-inspection service to the other departments of the Commission and to the Municipalities embraced in the Commission's operations. Its staff is composed of engineers, chemists and laboratory assistants who carry out their duties in the laboratories or in the field, as expediency or necessity may dictate. The Approvals laboratory is charged with the duty of administering the rules and regulations of the Commission governing electrical equipment. It is composed of a staff of laboratory engineers and factory inspectors; the former are engaged almost entirely in making laboratory tests and the latter in making inspections in the factories and in the field. The Electrical Inspection division is responsible for the administration of the Rules and Regulations of the Commission governing electrical installations. It is organized in districts covering the entire Province, in each of which one or more inspectors are stationed. The work of this division involves inspection, but this is quite different to the inspection carried on by the Testing and Research laboratories. The latter inspects materials and equipment which the Commission purchases for its own use while the former is charged with the duty of inspecting wiring installations in houses, offices, etc. and industrial installations in order to determine whether or not such installations contain a fire or a shock hazard.

An event of importance in the year's operations was the formation of a Research committee in the Commission. The objects of this committee are: to correlate the investigational work of all departments, to discover and develop research talent in the Commission, to encourage the staff to submit ideas which may be developed for the benefit of the Commission and to guide research work in the Commission. The main Research committee consists of five department heads. Sub-committees are appointed to undertake specific research under the direction of the main committee. Nine projects are now active and encouraging progress has been made. Reference is made below to several of these projects.

TESTING AND RESEARCH LABORATORIES

Statistical and Routine Work

During the year, 40,784 tests of all classes were made in this division of the department. Of this total the Electrical laboratory made 15,734 tests, the Chemical laboratory 1,195, the Structural Materials laboratory 4,097, and the Photometric laboratory 19,758. The Blueprint branch completed 3,778 orders and made 48,171 prints having a total area of 121,679 square feet, and the Photographic branch completed 551 orders covering all phases of dark room, studio and field photography. These statistics cover testing to assure the standard of quality of items such as insulating oil, transmission line hardware, rubber gloves, oils and paints, wire and cable, concrete materials and luminous lighting devices as well as special tests involved in miscellaneous investigations and research.

Although this particular phase of the laboratory activities does not change materially from year to year, the work is continually becoming more diversified and the laboratory is called upon to develop new methods and equipment for routine or special testing. An example of this is the new section recently established for conducting physical and chemical tests on insulated wire conductors and electrical conduit and tubing.

Materials and Equipment Inspection Work

The volume of general inspection work was considerably reduced this year owing to the continued depression in the construction activities of the Commission.

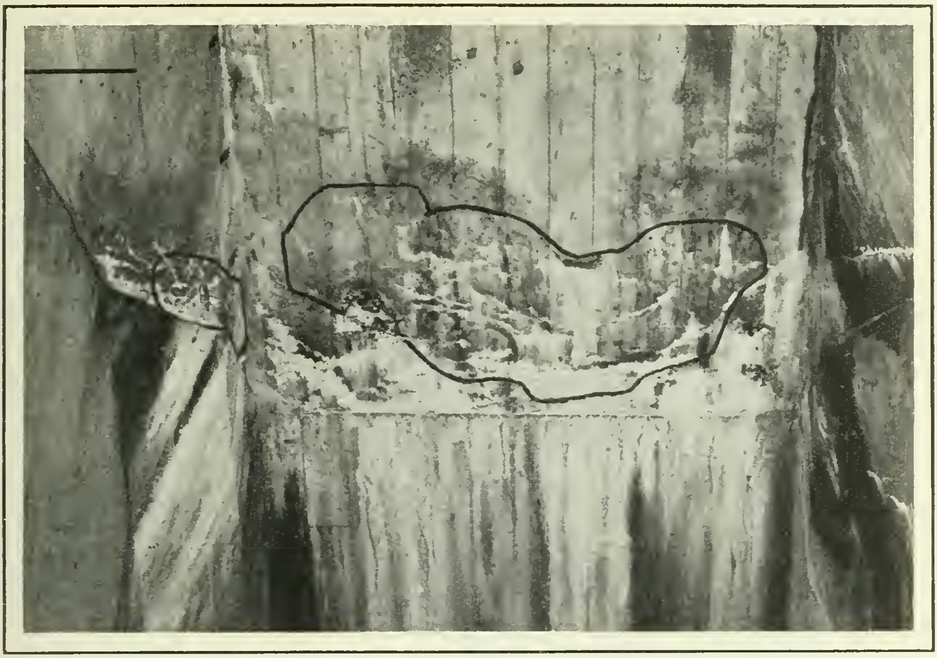
Transmission Line Materials

The routine inspection of transmission line materials was of the same general character as in previous years. All articles such as bolts, cross-arms, pins, splices, connectors, brackets, galvanized steel wire, copper and aluminum conductors and tower-line steel are subjected to rigid inspection either at the laboratory or in the manufacturers' shops. Faulty materials are thus eliminated and hazards to human life as well as service interruptions due to line failures are minimized.

Equipment

The principal items inspected during the period covered by this report were 44 transformers of total capacity 221,805 kv-a and equipment required in the construction of seven electric steam generators having a total capacity of 130,000 kw. During the fabrication of boiler steel for these generators a resident inspector was stationed at the plant, and witness tests were made on the assembled units before final acceptance was granted. Particular attention was also given to the welding of equipment for these installations.

Preliminary work has been done on the inspection of equipment required to complete the Beauharnois contract. This will include the inspection of turbines, generators, governors, circuit breakers and transformers used to supply power to the Commission.



FIELD INSPECTION OF CONCRETE STRUCTURES

Where conditions warrant, affected areas are outlined on the structure and photographed so that the rate of deterioration may be followed annually

Concrete

Inspection of the Commission's concrete structures as a means of detecting incipient deterioration has been continued. These inspections also afford an opportunity for the laboratory staff to observe the durability of various building materials in service and they assist in making recommendations as to the most suitable materials for the Commission's use. Inspections of this character during the year included eight plants in the Georgian Bay district, three plants in the Nipissing district, three plants in the Sudbury district, the canal walls at Queenston, the generating station and main dam at Eugenia, and the two plants on the Nipigon river.

Although no major concrete construction has been carried out during the year, the inspection staff has assisted in making recommendations as to materials and mixtures for repair work and minor jobs, and has also compiled detailed records on the recently completed construction at Chats Falls and Abitibi Canyon.

Research

New Methods and Materials

An important function of the testing and research division is to investigate the merits of new methods or materials and to report upon their usefulness or suitability in the Commission's maintenance and construction work. Items of this nature investigated during the year include cork insulations for preventing condensation on pipes; special devices for transmission line construction; paints for specialized purposes; spray equipment for creosoting poles; roofing materials for powerhouse use; heaters, thermostats and boiler lagging for domestic hot-water service; hardware for low-voltage lines, and insulating cements for electric steam generators.

Investigation of Troubles

The laboratories are frequently requested to investigate troubles which occur in operation and to report upon remedial measures which will prevent their reoccurrence. The following are typical examples of this type of service:

Recommendations were made for treating cooling-pond water to prevent the formation of pipe scale.

A metallurgical examination of a broken tower member revealed that segregation in the steel had caused the failure.

Defective turbine runner bolts at Queenston. Microscopic examination revealed segregation of the metal and the replacement of these bolts was advised.

Defective set screws from bearings at Queenston. Hardness and brittleness had caused failure through impact. Properly heat-treated set screws were recommended.

Galvanizing which had turned black in service. This investigation is still in progress.

Ground wire and dead-end clamps replaced in the field after several years' service were examined to determine any condition which would assist in making these replacements less frequent.

Investigations Leading to Improvements in Methods or Materials

The following problems have received attention during the year:

Comparative tests on bare welding rod and covered rod. In all cases the covered rod was found to be superior.

Investigation of the physical characteristics of aluminum strands in steel-reinforced aluminum conductors, particularly in regard to their bending qualities. The tests showed lack of uniformity in this respect.

Study of a special line fault indicator. Sufficient time has not elapsed to warrant comment upon its merits.

Development of an electrical stress-strain instrument for recording vibration in transmission line conductors. This promises to be a very useful piece of apparatus.

Treatment of concrete walls where moisture presents a serious obstacle to painting. Several treatments have been investigated.

Plastic insulating cement for covering joints in large electrical conductors. A satisfactory cement was found.

Selection of a suitable cement filler for slate panels.

Development of a new method of stubbing wood poles to prevent rotting at the ground line. Assistance was given our engineers at the laboratory and in the field.

Water heating installations for domestic hot-water service. Many special tests were made to investigate the merits of equipment and types of assembly. A large amount of valuable practical data has been obtained and considerable assistance was afforded the manufacturers in developing suitable equipment.

APPARATUS FOR MEASURING THE GLOSS OF PAINTS
Illumination Laboratory

Treatment of Wood Poles

The extent of the Commission's rural transmission lines has warranted a thorough investigation as to the efficiency of various kinds of preservative treatments. Considerable progress has been made in the study of this problem. Annual inspections of the Barrie test bed are being made and the installation of a second test bed near Donlands has been completed. Twenty-four soils from the Niagara district were tested, and over 400 poles from various localities were inspected and recorded for future study. A special device for creosoting poles already in service was investigated, and data pertaining to the history of certain selected pole lines were studied.

Paint

The testing and inspection of paint is one of the most valuable services rendered by the Chemical laboratory. This laboratory not only makes routine tests on paints regularly purchased by the Commission, but is constantly investigating the merits of new products and making recommendations where paints for special purposes are requested. It continues to co-operate in making laboratory tests and field inspections of tower line painting. This service has resulted in a substantial saving in maintenance charges.

Recent developments in paint testing include: microscopic examination of specimens to detect initial failure and photometric measurements for gloss, where this feature is of importance.

Concrete

Concrete problems investigated during the year have included:

Comparative tests on standard silica sands for cement testing. These tests were made in co-operation with the Canadian Engineering Standards Association with a view to adopting a Canadian sand if it proved satisfactory.

Tests on standard aggregates for major concrete investigations. These tests were necessary as the materials formerly used as standard are no longer available. New materials were selected and tests were made to correlate our porportioning data.

The grouting of joints which have given trouble in our existing concrete structures. Cement and asphalt materials were investigated and recommendations were made for the repair work at Nipigon.

The study of problems relating to winter concreting. Placing of concrete during freezing weather presents many specific problems worthy of special consideration. An investigation is now in progress to study the thermal characteristics of concrete and concrete aggregates, the capacity of heating plant necessary for given temperature conditions, the heat generated by chemical reactions in freshly-set concrete and the curing temperatures necessary to provide economical yet adequate curing protection.

The use of crushed limestone or granite as a substitute for natural sands. Proportioning tests for this study are now being made and over 500 cylinders out of a total of 790 have been completed.

Preliminary work done last year on an analysis of the variations in concrete strength tests has been continued. A comprehensive survey of Hydro and foreign field data was made to assist in revising the present concrete strength classifications.

The resurfacing and patching of deteriorated concrete. Field tests have been made using various treatments on sidewalks.

Typical defects which occur due to faulty design or construction have been photographed for the information of our engineers.

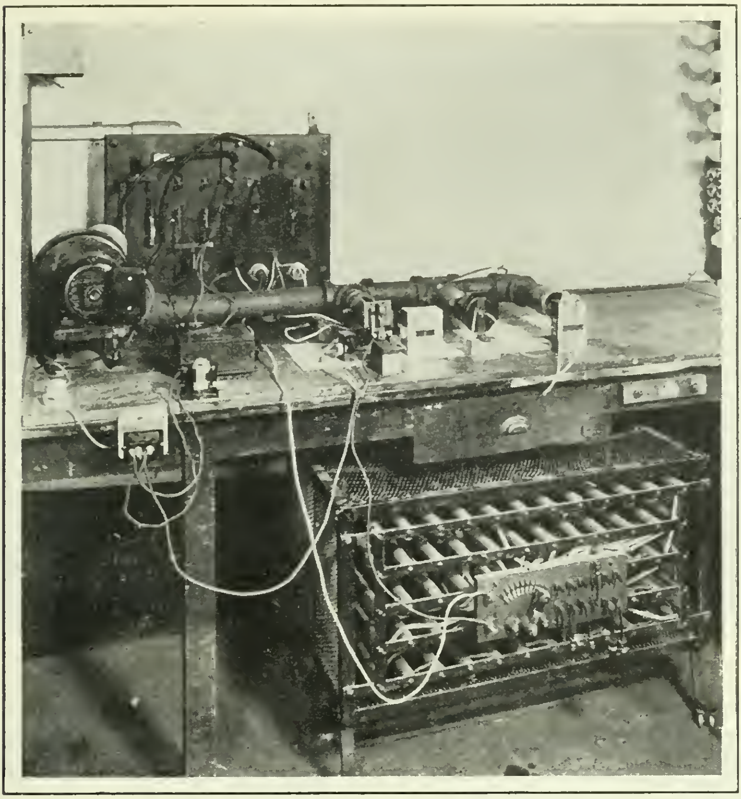
Insulating Oils

A major investigation is now being made to determine the feasibility of reconditioning insulating oil in large quantities. Apparatus of sufficient capacity to reclaim oil on a modified commercial basis has been assembled at the laboratory and the results of tests have been very encouraging. Some mechanical difficulties were experienced, but it is expected that satisfactory field equipment will be developed for restoring deteriorated oil to many additional years of service.

Other studies in respect to insulating oil have been the investigation of operating temperatures as they affect the rate of deterioration, a survey to determine the condition of insulating oils in service and an investigation to establish a more sensitive test for sludge determination.

Radio Interference

The laboratories continue to co-operate with the Dominion Department of Marine in efforts to eliminate radio interference caused by apparatus on electrical



ENDURANCE TEST ON THERMOSTATS
Approvals Laboratory

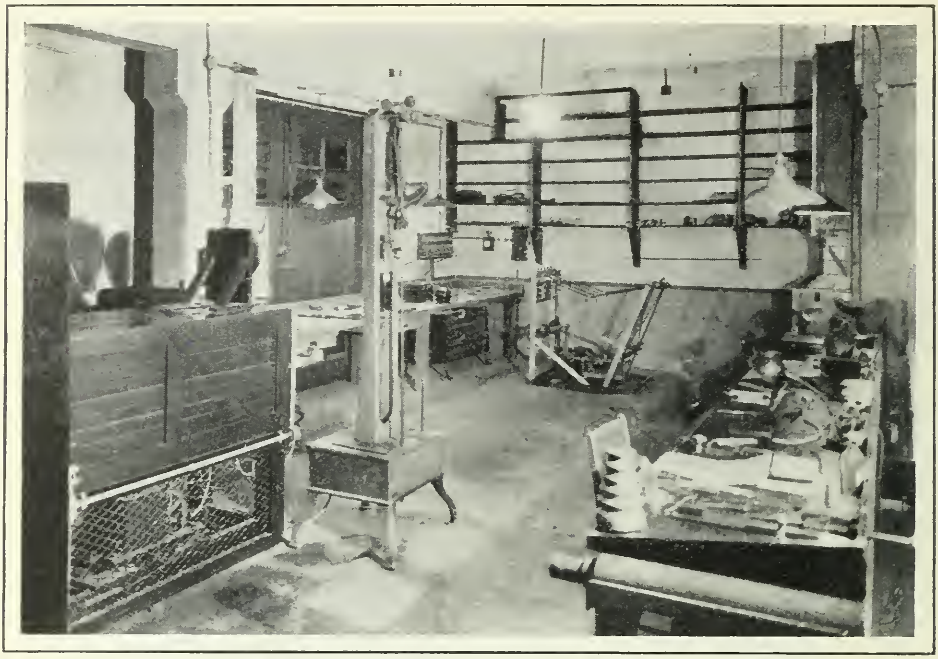
systems. The chief sources of this trouble are transformers, lightning arresters, fused outlets, insulators and some types of line hardware. Power companies are giving an increasing amount of attention to this matter.

Oscillographic Studies

Special tests on a rather extensive scale have been made using oscillograph elements where the time involved was of short duration. These instruments are particularly flexible and they may be used to record any mechanical quantity which may be duplicated by its electrical equivalent.

Vibration of Transmission Line Conductors

During the year the facilities of the laboratory were involved to a greater extent than heretofore in the study of vibrations in transmission line conductors. Several methods of attacking this problem have been investigated, and special electrical apparatus for measuring the vibrations has been developed. Very satisfactory progress has been made and it is expected that these studies will be continued.



LABORATORY FOR TESTING INSULATED WIRE CONDUCTORS

A low-temperature refrigerator is shown at the left, the tension and recovery machine in the centre foreground and the cord endurance tester in the centre background

Communication

Communication problems are continuous in character but new aspects are constantly presenting themselves, particularly those in respect to carrier wave. The merits of several new systems have been studied.

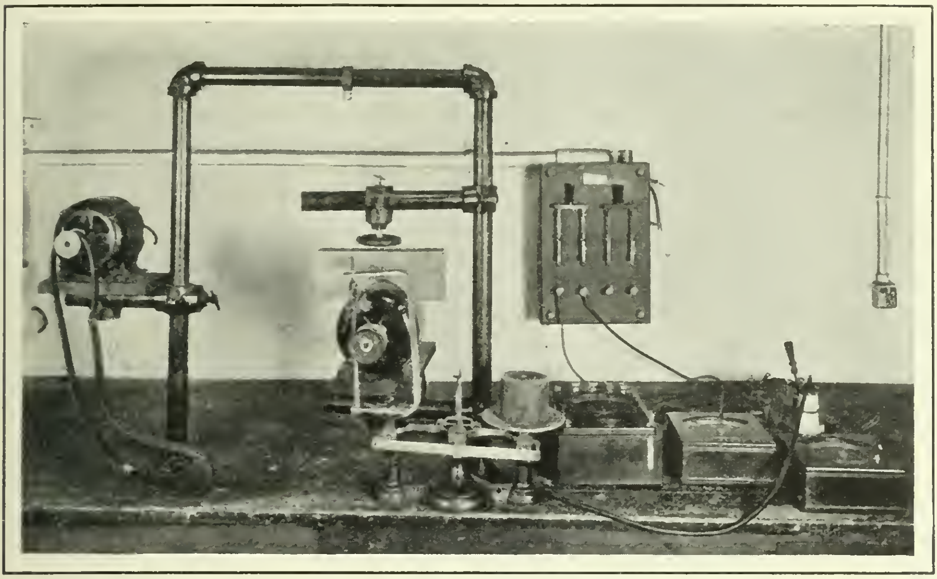
Industrial Research

Assistance has been given in co-operation with the Department of Industrial Research, University of Toronto, in problems relating to resuscitation from electric shock and the prevention of silicosis. A member of the laboratory staff has been assigned to assist in the development and control of electrical apparatus used in the investigation of these important humanitarian problems.

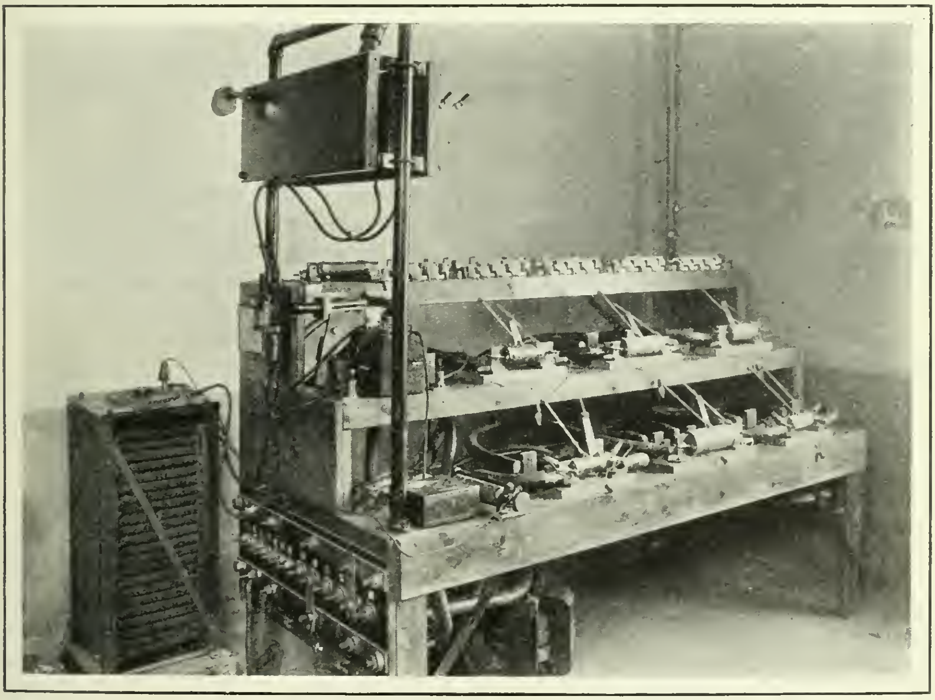
Miscellaneous

New Equipment

The only new equipment added during the year was that required in the establishment of a new section for testing insulated wire conductors and electrical tubing and conduit. As far as possible the equipment already in the laboratory was adapted to the new work, and only such apparatus as could not be assembled in our own shops was purchased. New equipment purchased for this work includes an electric refrigerator capable of attaining a temperature of –22° Fahr. and a Pyrofax gas machine for conducting flame tests. Both of these items may be used for a multiplicity of purposes in general laboratory work.



BRAKE TESTS ON SMALL MOTORS
Approvals Laboratory



TEMPERATURE AND OVERLOAD TESTS ON FUSES
Approvals Laboratory

It was also necessary to purchase or construct for use in the laboratory several machines for physical testing of rubber and other insulating materials. These included a special refrigerator, machines for buffing rubber and stretching wire, impact testing, testing tensile strength of armoured cable and other cable, tightness of armour, abrasion of insulation and endurance of heater cords. It was also necessary to purchase a considerable number of small tools, micrometers, balances, gauges, dies, thermometers, etc. for bench work on these materials.

To take care of life tests on thermostatically-operated controls for refrigerators and water heaters a special set-up was devised so that streams of hot and cold air alternately could be passed over the device at varying rates. Several new jigs were constructed for switch and socket tests, together with a device for applying heat so that heater switches could be operated at normal temperature. A 12-point pyrometer for measuring temperatures by means of thermocouples on automatic irons, toasters, percolators, etc. was adapted for use in the investigation of these appliances.

A reactor coil was designed and constructed to furnish a load for testing switches for the control of single-phase motors. With this coil it is possible to obtain loads equivalent to locked-rotor loads of motors in capacities from 1/6 to 2 h.p. at 115 volts and from 1 to 5 h.p. at 230 volts.

Standardization

The standardization activities of the department have on the whole been maintained at approximately the same level as last year. The preparation of specifications under Part II of the Canadian Electrical Code has been pressed vigorously forward, as noted in the report of the Approvals laboratory. The benefits of this work both to the Approvals laboratory and the manufacturers are continually evident.

As mentioned in the last report, the Approvals laboratory on January 1, 1933, undertook the inspection of wire, cable, conduit and other items formerly under the inspection service of Underwriters' Laboratories. This work is carried on in co-operation with the Canadian manufacturers and the Canadian Engineering Standards Association under the standards of the Canadian Electrical Code.

Lighting Service

This service is provided for the use of the municipalities and their customers. During the year twelve reports were submitted in response to requests for lighting plans.

Lamps

The Photometric laboratory continues to conduct tests on and to make inspections of all Hydro lamps sold throughout the Province. Samples for life tests are selected from each batch of lamps manufactured for the Commission. The tests of these reveal the inherent quality of the lamps and serve to show whether or not they comply with the requirements of the Commission's specifications. The accumulated information also furnishes a basis for improvements in efficiency as experience dictates.

APPROVALS LABORATORY

Statistical

The following table contains a summary of the testing and inspection work of the Approvals laboratory for the past two years:

	1932	1933
Applications for approval	660	743
Special approval tests, etc.	178	237
Listing	52	67
Factory inspection reports	3,039	3,328
Labels sold—(16 types)	696,100	621,723
Conduit	.....	446,000
Wire, cord, etc.	.....	334,000

Applications for approval:

Motor-driven appliances	222
Electrically-heated appliances	168
Wiring devices	125
Lighting devices	106
Industrial control and transformers	43
Miscellaneous	43
Wire and cable	19
Radio and sound	17

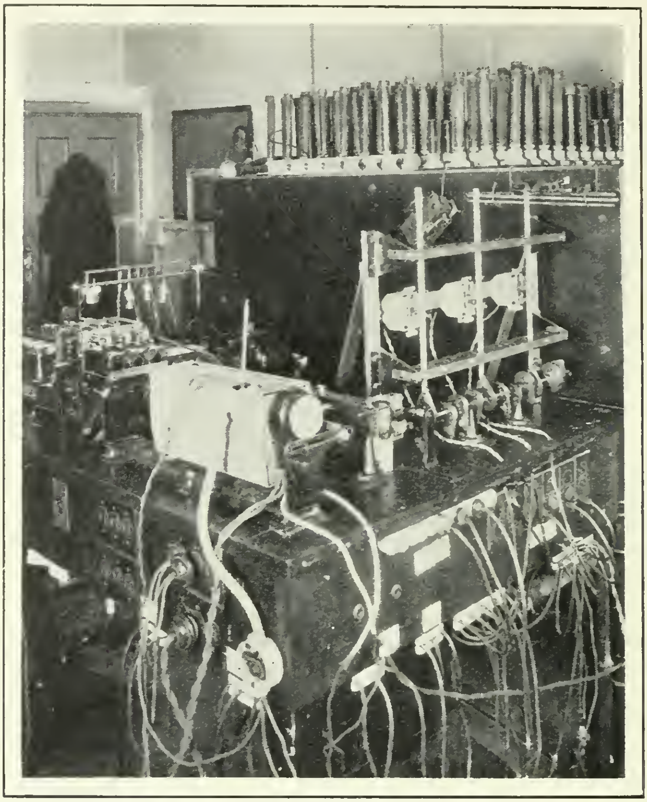
Specifications

Summary of Work

Specifications in process by Canadian Engineering Standards Association, November 1, 1932	15
Specifications printed since November 1, 1932	5
Specifications advanced to final C.E.S.A. form	4
Specifications begun during year (Some advanced to C.E.S.A. draft form and others still in laboratory draft.)	10
Meetings of C.E.S.A. Specification Panel attended	15
Average attendance of laboratory engineers	3.5
Other meetings attended relating to Approvals work	3

One engineer is devoting his whole time to specifications. Two others are giving part time and several others are consulted as required in order to insure that all requirements are properly covered by any draft.

In addition to this work some standardization work has been done in connection with the marking of plug fuses and of mercury contact switches. Several bulletins were also issued referring to appliance plugs, use of flexible cords, cartridge enclosed fuses, and insulated wires and cables. By arrangement with Canadian Engineering Standards Association these bulletins were circulated by that association to manufacturers and others concerned.



ENDURANCE TEST ON THREE-HEAT RANGE SWITCHES
This test is being made at constant temperature of 100 deg. C.
Approvals Laboratory

The Safety Code for elevator equipment proposed by the Canadian Engineering Standards Association was reviewed and an appendix covering electrical features for inclusion in this code was compiled.

Other specifications received through the Canadian Engineering Standards Association from the British Standards Institution and the Australian Standardization Association have also been reviewed and comments forwarded.

Label Sales

Commenting on the summary of labels sold, as compared with the previous year, there is a drop of approximately 75,000 or about 11 per cent. This loss of revenue was more than made up by the sale of labels for conduit, fixtures, insulated wire and cord, heater cord, armoured and non-metallic sheathed cable, flexible steel conduit and non-metallic tubing. The continued general depression in the building trades however kept the demand for this label service to a low point as it did not come up to the estimate.

To handle the inspection required by an increasing number of label users in the district surrounding Montreal, it was found necessary to open a branch office in Montreal where laboratory specifications and other information could be available as well as labels. This arrangement has worked out very well.

In the Western Provinces, the business depression has probably been more acutely felt by manufacturers with the result that the falling off in demand for label service has been more pronounced than in Ontario and Quebec.

A revised list of approved electrical equipment will be issued early in 1934.

Field Sales Control

During the year twenty-two offenders were brought to Police Court for breach of Rule 103 and many more were served, or about to be served, with summons but further action was dropped when compliance with the Regulations was forthcoming. Of the above number six were fined.

An attempt was made by one concern to bring in substandard Christmas tree sets and incandescent lamps. Much time was taken up and several court cases resulted both in Toronto and surrounding towns before the further distribution of these sets was checked. The use of assumed names by the offenders made it difficult to cope with this class of offender.

ELECTRICAL INSPECTION DEPARTMENT

The Electrical Inspection department of the Hydro-Electric Power Commission has now been in operation for a period of eighteen years. It was formed, in the latter part of 1915, to supervise the carrying out of the Rules and Regulations governing electrical installations in all municipalities of the Province of Ontario. It functions for the Provincial Government under the direction of the Hydro-Electric Power Commission.

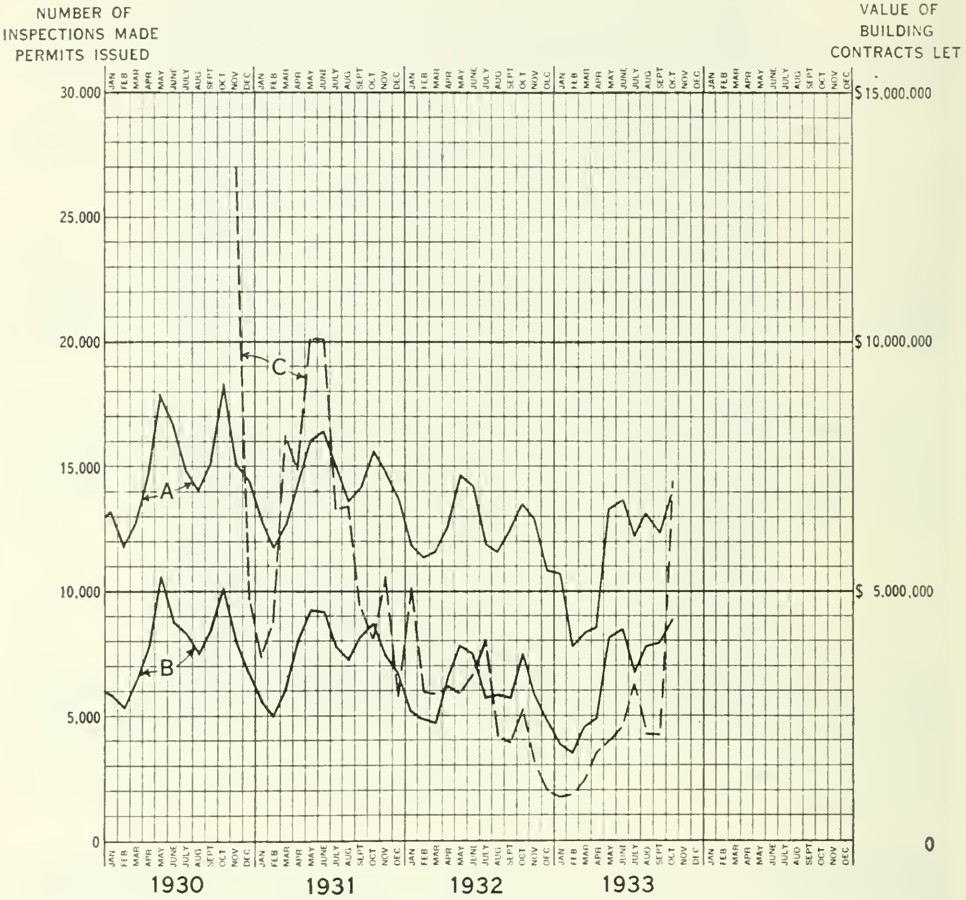
While the work of the Department varies but little from year to year, the volume handled is governed, to a large extent, by the amount of new building construction carried on throughout the Province. The value of this has shown a steady decline from $116,203,200 in 1930 to $26,292,000 in 1933.

There are reasons for believing that the bottom of the depression has been reached, so far as building construction statistics, covering a period of years, would indicate. The number of paid applications, for inspection, received in 1933, amounted to 75,054, a decrease of 1,117 or 1.47 per cent from 1932.

The small decrease in the number of permits issued does not however accord with the building construction situation, outlined above. The number of permits was maintained at a higher level as a result of the Commission's water heater campaign. If this field of work had not been created, the number of permits issued would have fallen off by approximately 15 per cent.

In all, 137,760 inspections were made, a decrease of 16,135 or 12 per cent from 1932.

The accompanying graph shows the monthly trend of permits issued, inspections made and the cost of building construction in Ontario for the period 1930 to 1933.



NOTE—Curve A = No. of inspections; Curve B = No. of permits issued; Curve C = Value of building contracts

Fires

Of the numerous fires reported to the Department as having been caused by defective electric wiring, investigation has definitely placed the causes of 31 as due to defective wiring. This number is an increase of 11 over last year. The fires are classified, as to origin, below:

Armoured cable	4
Wires overfused	5
Heaters (improperly used)	3
Defective joints	2
Short circuits	5
Lamp in barn, covered with chaff, as a result of threshing operations	1
Flexible cord	6
Service conduit blowout	1
Iron left on	1
Motors	3
Total	31

Electrocution

During each year, a number of instances of electrocution are reported, in the newspapers, throughout the Province. Most of these are brought about by persons coming into contact with high-voltage wiring and equipment which is not under the jurisdiction of the Inspection Department.

Four fatal accidents occurred, within the past fiscal year, through equipment under the jurisdiction of this Department. The individual causes are cited below:

> Man electrocuted by coming into contact with an amusement device, on which an intermittent ground existed. Voltage of circuit, 110.
>
> Man electrocuted while making alterations to a heater connection; neglected to pull switch. Voltage of circuit, 550.
>
> Man electrocuted while working with an electric jack which was not grounded. Voltage of circuit, 550.
>
> Man electrocuted while painting pipe framework around switching equipment. Voltage of circuit, 2,200.
>
> Two cows and one horse were also electrocuted. High resistance grounds were the cause in each instance.

Infractions of Regulations

Forty-two persons and companies were prosecuted for various infractions of the Rules and Regulations. Fines amounting to $480 and a number of suspended sentences were imposed.

The routine work of inspecting the older and more obsolete type of installation has been carried on as in previous years. Owing to present conditions, more time and effort is required to influence the consumer to have the installation brought up to a reasonable standard of safety than was formerly the case. The Department has recognized the hardships which might be imposed, in this connection, and has only taken action where life and fire hazard exist. In all, 2,603 installations were brought up to a reasonable safe condition at an approximate cost of $138,848.

Artificial Grounds

This year, 2,222 artificial grounds were tested as compared with 3,824 last year. The readings obtained give the Department a knowledge of the ground protection on each installation before the supply lines are connected. This information, along with other data, is turned over to the Engineering department, for study, with a view to improving upon the types of artificial grounds now in use.

SECTION VIII

ELECTRIC RAILWAYS

THE SANDWICH, WINDSOR AND AMHERSTBURG RAILWAY COMPANY

Operation

In 1933 the gross earnings were $492,795 as compared with $568,452 in 1932, a decrease of $75,657. The 1933 operating expenses were $498,134 as compared with $564,692 in 1932, a decrease of $66,558. There was an operating deficit of $5,340 as compared with an operating net of $3,759 in 1932.

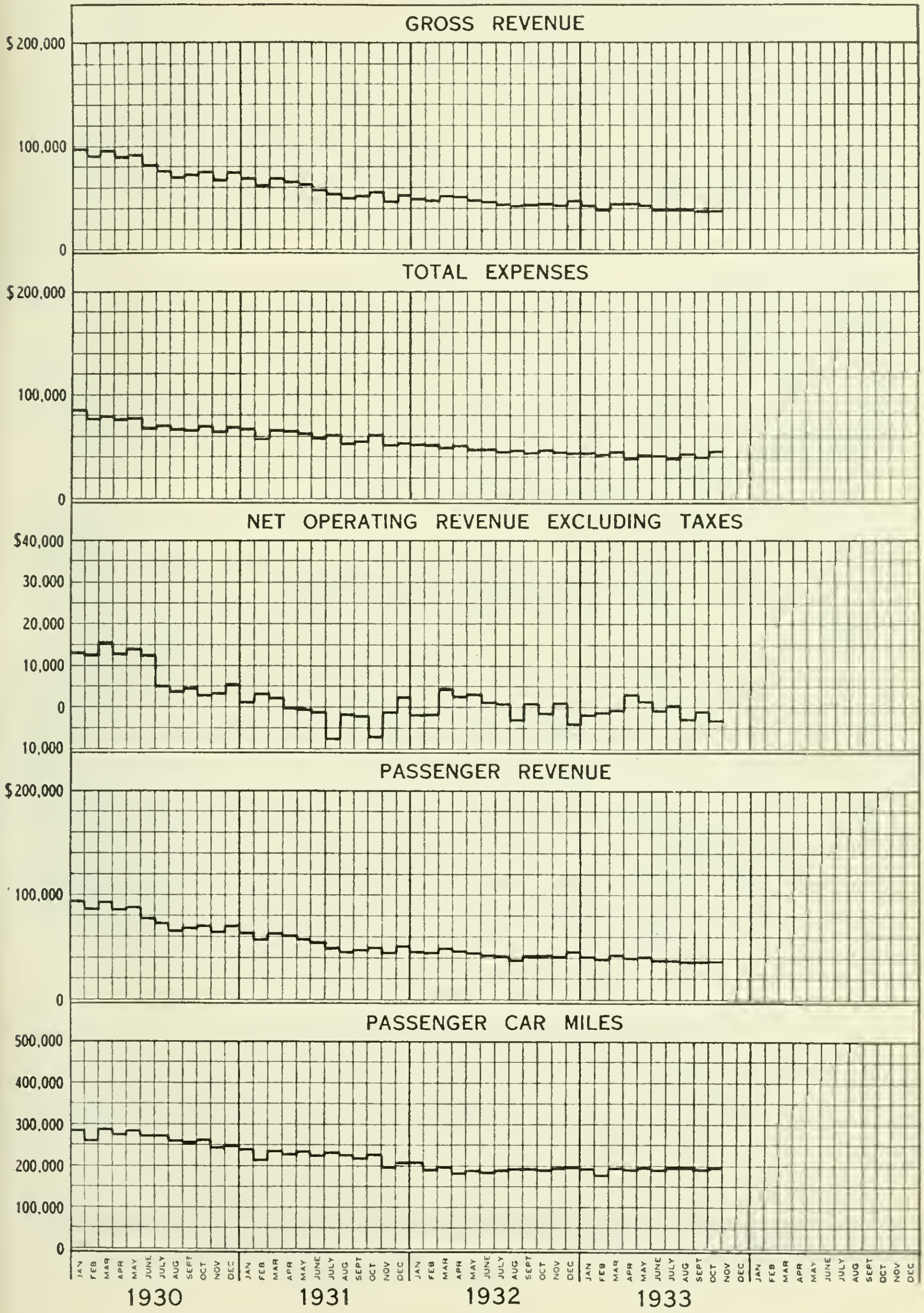
The adjustment of the 1932 power bill was made too late to be included in the 1932 report and the amount—$4,872 has been credited to 1933 operating expenses. Similarly, the 1933 adjustment has not been made at this writing.

Industrial conditions in the Border Cities show little or no change for the better and the earnings of the Railway decreased 13 per cent while operating expenses have been reduced 11.7 per cent.

The accompanying chart indicates the record of the Railway for the past five years.

The mileage operated by the various types of cars during the year is as follows:—double truck, air brake, two-man cars 2,823 car-miles; interurban cars, 438,297 car-miles; single truck safety cars, 569,528 car-miles; double truck safety cars, 1,311,334 car-miles; express cars 10,944 car-miles; service cars, 12,268 car-miles; total 2,345,194 car-miles.

SANDWICH, WINDSOR AND AMHERSTBURG RAILWAY OPERATING STATISTICS



SANDWICH, WINDSOR AND AMHERSTBURG RAILWAY

Operating Statistics, 1933

Route-miles:—		
City	24.81	
Amherstburg interurban	13.54	
Tecumseh interurban	5.34	
Total route-miles		43.69

Passenger and freight car-miles operated	2,332,926
Passenger and freight car-hours operated	237,426
Passengers carried	8,576,698
Percentage of transfer passengers to revenue passengers	21.15%
Passenger cars operated	58
Passengers carried per route-mile	196,308
Passengers carried per car-mile	3.7
Passengers carried per car-hour	36.4
Average mileage per car operated	40,031
Average passengers per car operated	147,874
Freight tonnage carried	1,616

Accidents 315, of which 214 were automobile accidents.
Accidents per 100,000 car-miles: 12.698.

GUELPH DISTRICT RAILWAY

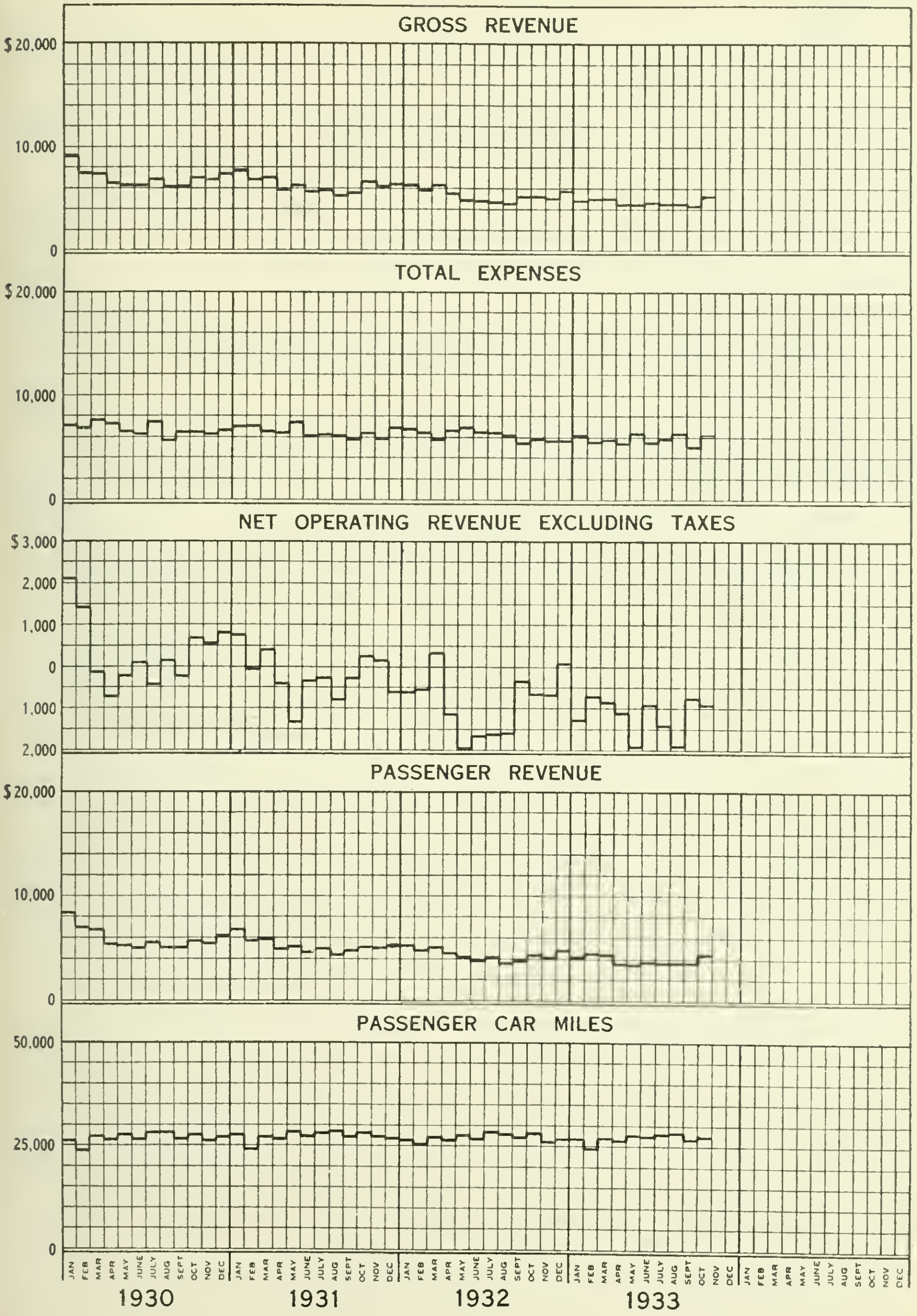
Operation

The operating revenue for the Guelph District Railways for 1933 was $57,455 as compared with $65,595 in 1932. The operating expenses for the year 1933 were $69,806 as compared with $73,380 in 1932. The net operating shortage was $12,351, as compared with $7,784 in 1932. The interest and debenture payments were $25,468 as compared with $25,588 in 1932. Sinking Fund requirements were $3,159 as compared with $3,159 in 1932. Nothing was set aside for renewals. The deficit for 1933 was $41,332 as compared with $36,885 in 1932.

Included in the above deficit is $8,351, which had been set aside for amortizing the original value of the Railway previous to the transfer of this road to the Hydro-Electric Power Commission; and also an interest charge of $3,349.

The freight earnings for the year 1933 were $8,931 as compared with $10,506. Passenger earnings were $47,921 in 1933 as compared with $54,373 in 1932.

GUELPH DISTRICT RAILWAYS—OPERATING STATISTICS



GUELPH DISTRICT RAILWAY

Operating Statistics, 1933

Route-miles:—		
Trolley	6.41	
Bus	5.99	
Total route-miles		12.40
Track-miles		9.06
Passenger cars operated		7
Buses operated		4
Passenger car-miles operated		221,185
Bus-miles operated		91,419
Freight-locomotive-miles		9,908
Passenger car-hours operated		27,619
Passenger bus-hours operated		13,037
Revenue passengers carried		835,867
Transfer passengers carried		226,996
Free passengers carried		3,402
Total passengers carried		1,066,285
Percentage of transfer passengers to revenue passengers		27.1
Freight motor cars operated		1
Freight motor-hours operated		2,141
Total passenger freight and service car-miles operated		332,536

Accidents:—17 of which 11 were due to automobiles.

Accidents per 100,000 car-miles—1927, 8.24; 1928, 4.25; 1929, 12.3; 1930, 7.2; 1931, 4.45; 1932, 5.95; 1933, 5.1.

SECTION IX

FINANCIAL STATEMENTS

Relating to Properties Operated by The Hydro-Electric Power Commission on Behalf of Municipalities

The following explanatory statement is submitted with a view to affording a satisfactory understanding of the manner in which the various operations of the Hydro-Electric Power Commission of Ontario are conducted and financed and thus contributing to the interest of those concerned either directly or indirectly with the work of the Commission.

The "Hydro" electrical undertaking of Ontario is an organization of a large number of partner municipalities co-ordinated into groups or systems for securing common action with respect to power supplies, through the medium of the Hydro-Electric Power Commission which under the Power Commission Act functions as their trustee. The undertaking as a whole, embracing all the operations from the provision of the power down to its final delivery to the ultimate consumer, involves two distinct phases of operations.

The FIRST phase of operations is the provision of the electrical power—either by generation or purchase—and its transformation, transmission and delivery in *wholesale* quantities to individual municipal utilities, to large industrial consumers, and to rural power districts. This phase of the operations is performed by the Hydro-Electric Power Commission of Ontario as trustee for the municipalities acting collectively in groups or "systems," and the financial statements relating to these collective activities of the municipalities are presented in this section of the Annual Report.

The SECOND phase of operations is the *retail* distribution of electrical energy to consumers within the limits of the areas served by the various municipal utilities and rural power districts. In the case of rural power districts, which usually embrace within their confines portions of more than one township, the Hydro-Electric Power Commission not only provides the power at wholesale, but also—on behalf of the respective individual townships—attends to all physical and financial operations connected with the distribution of energy at retail to the consumers within the rural power districts.* The financial statements relating to the rural power districts are also presented in this section of the report. In the case of cities, towns, many villages and certain thickly populated areas of townships, retail distribution of electrical energy provided by the Commission is in general conducted by individual local municipal utility commissions under the general supervision of the Hydro-Electric Power Commission of Ontario. The balance sheets, operating reports and statistical data relating to such individual electrical utilities are presented in Section X of this report.

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*For further information respecting rural power districts consult latter portion of Section III in this Report.

Having the foregoing distinctions respecting wholesale and retail electrical service in mind, the following brief notes will assist to an understanding of the economic structure and of the general plan of administration of the undertaking, and will make clearer the financial tables herein presented. The basic principle governing the financial operations of the undertaking is that electrical service be given by the Commission to the municipalities and by the municipalities to the ultimate consumers at cost.

The charges for power supplied by the Commission to the various municipalities vary with the amounts of power used, the distances from the sources of supply and other factors. The entire capital cost of the various power developments and transmission systems is annually allocated to the connected municipalities and other wholesale power consumers, according to the relative use made of the lines and equipment. Each municipality assumes responsibility for that portion of property employed in providing and transmitting power for its use, together with such expenses—including the cost of purchased power if any—as are incidental to the provision and delivery of its wholesale power. The entire annual expenses—including appropriations for reserves—incurred by the Commission in the supply of power at wholesale are thus paid out of revenues collected in respect of such power, through the medium of power bills rendered by the Commission. The municipalities are billed at an estimated interim rate each month during the year and credit or debtit adjustment is made at the end of the year,* when the Commission's books are closed and the actual cost payable by each municipality for power received has been determined.

Included in the municipality's remittance to the Commission for the wholesale cost of power—besides such direct expenses as those for operation and maintenance of plant, for administration, and for interest on capital—are sums required to build up reserves for sinking fund, for renewals, and for obsolescence and contingencies. The first-mentioned reserve is for the purpose of liquidating the capital liabilites; consequently, as capital obligations are discharged the plant will progressively be freed from interest expense. The other reserves are, respectively, being created to provide funds for the replacing or rebuilding of plant as it wears out; to enable the undertaking to replace existing equipment with improved equipment as it becomes available through advances in science and invention, and to meet unforeseen expenses which from time to time may arise.

The ultimate source of all revenue to meet costs—whether for the larger operations of the Hydro-Electric Power Commission or for the smaller local operations of the municipalities—is, of course, the consumer. Out of the total revenue collected by each municipal utility from its consumers for service supplied, only an amount sufficient to pay the wholesale cost of power supplied by the Commission as outlined above is remitted to the Commission; the balance of municipal electrical revenue is retained to pay for the expense incurred by the local utility in distributing the electrical energy to its consumers.

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*The financial year for the Commission ends on October 31. The financial year for the municipal electric utilities, however, ends on December 31, and the municipal accounts are made up to this date, and so recorded in Section X.

The results obtained by the annual adjustments of the Commission's capital investment, operating expenses and fixed charges, as they affect individual municipalities are shown in the tables for the respective systems. For the purpose of financial statement, the various systems are treated as separate units and for each of them similar statements and details are presented. Many of the pages which follow, therefore, simply repeat for each system data similar to those which are presented for the first system dealt with in each division of the report, namely, the Niagara system. In order, therefore, to possess a ready grasp of all the figures presented in this and other similar reports of the Commission, all that is necessary is to have a true understanding of the financial procedure followed in connection with one system and with one municipal "Hydro" utility.

The accounts of the Hydro-Electric Power Commission of Ontario are verified by auditors specially appointed by the Provincial Government. The accounts of the "Hydro" utility of each individual municipality are prepared according to approved and standard practice and are also duly audited.

Tabular Data

The first tabular statement given in Section IX is a general balance sheet exhibiting the assets and liabilities of the undertaking and relates to the properties constructed or otherwise acquired and being operated by the Commission as trustee for the municipalities of the various systems.

The general balance sheet is followed by groups of statements relating in turn to each system of the Commission. These statements, for each system, are similar in character and include:—

Operating Account for the year, showing, for the system as a whole, the various items of operating expense and fixed charges entering into the cost of power as defined by the Power Commission Act, and the revenues collected by the Commission from the partner municipalities and other consumers.

Cost of Power statement, which shows the apportionment to each municipality or rural power district of the items of cost summarized in the Operating Account, as well as the apportionment of the capital expenditures listed in the balance sheet and the amount of power taken by each municipality. It should be appreciated that the cost of power given in this table is the wholesale cost,—that is, the cost which the Commission receives for the power delivered from the main transformer stations serving the local utility or rural power district. In the case of rural power districts, the costs of power for the respective districts appear also in the "Rural Operating" statement, immediately following, as "Cost of power delivered"; in the case of municipal electrical utilities not directly administered by the Commission, the respective costs of power appear in Statement "B" of Section X as "Power purchased."*

Rural Operating statement, which shows for each rural power district the various items of cost, and the revenues received, in connection with the distribution of electrical energy to consumers.

Credit or Charge statement, which shows the adjustments made in order to bring the amounts paid by each municipal electric utility to the actual cost of service to that municipality. These credits and charges are taken up and given effect to in the municipal accounts of "Hydro" utilities before the operating records of each year are closed.

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*Consult footnote on previous page.

Reserve for Renewals, which shows the provisions made for, the expenditures from, and the balances to the credit of, this fund.

Reserve for Obsolescence and Contingencies, which gives similar information with respect to this reserve.

Sinking Fund statement, which gives the accumulated total of the amounts paid by each municipality and rural power district as part of the cost of power together with its proportionate share of other sinking funds.

Sinking Fund Reserve, which summarizes the provisions made with respect to this fund.

All municipal "Hydro" utilities have current expenses to meet similar to the expenses of the Commission and have adopted the same financial procedure with respect to their operations. In other words, concurrently with the creation of funds to liquidate their debt to the Commission and to provide the necessary reserve to protect generating, transforming, and transmission systems, the municipalities are taking similar action with respect to their local "Hydro" utility systems.

The balance sheets, operating reports and statistical data appearing in Section X, under the heading of "Municipal Accounts," relate to the operation of local distribution systems by individual municipalities which have contracted with the Commission for their supply of electrical energy. To this section there is an explanatory introduction to which the reader is specially referred.

To illustrate further the foregoing explanatory comments, there is presented herewith a typical operating statement of an Ontario municipal electrical utility, covering its financial operations, both as a partner in a system of the Hydro-Electric Power Commission, and as administrator of its own local distribution system.

PERTH "HYDRO" UTILITY

A Typical Operating Statement for the year 1933

REVENUE

Collected from Perth "Hydro" customers for year	$61,537.70

EXPENSES

A.—Incurred by the Hydro-Electric Power Commission on behalf of the municipality of Perth in connection with the supplying of its electrical energy. These data show—as determined by annual adjustment—what it costs the Commission to supply the municipality with its wholesale power. See "Cost of Power" statement, page 238, for the Town of Perth as follows:

Cost (proportionate share) of power purchased for Eastern Ontario system, from generating plants not owned by Commission	$8,855.40
Cost (proportionate share) of operation and maintenance expense of Eastern Ontario generating plants, transformer stations and transmission lines together with administrative expenses	7,227.15
Interest, including exchange, on Perth's proportionate share of capital investment in generating plants, transformer stations and transmission lines	10,822.48

Renewal reserve (proportionate share) provided in respect of generating plants, transformer stations and transmission lines	$2,968.15
Obsolescence and contingencies reserve (proportionate share) provided in respect of generating plants, transformer stations and transmission lines	873.66
Sinking Fund (proportionate share) provided in respect of generating plants, transformer stations and transmission lines	2,269.89
Cost in excess of revenue from power sold to private companies*	5,005.70
	$38,022.43

B.—Incurred by the municipality of Perth through its utility commission in connection with the sale of electrical energy to consumers. Consult the section dealing with the Municipal Accounts:

Operation, maintenance and administrative expenses	$8,648.87
Interest on debenture debt, etc	2,880.45
Sinking fund and principal payments on debentures	1,819.09
Depreciation and other reserves	3,224.00
	$16,572.41

TOTAL EXPENSES

Charged against revenue from customers of the Perth System	$54,594.84
NET SURPLUS FOR THE YEAR	$6,942.86

The municipality of Perth, situated in the south eastern part of the Province, was connected to the Eastern Ontario system in February, 1919. With the close of the fourteenth year of operation, this utility's total assets are $220,342.86, liabilities $57,695.17, and reserves and surplus, $162,647.69, as shown in the municipalities' balance sheets, in Section X, Statement "A."

By reference to this municipality's balance sheet, it will be noted that the Perth "Hydro" utility has created a sinking fund equity amounting to $34,151.00 in the Hydro-Electric Power Commission system.

By reference to Statement "D" in Section X of this report it will be seen that under the low rate schedules prevailing throughout the Province, the rates in force in Perth have resulted in *average costs*† to the various classes of service as follows: Domestic service (with an average monthly consumption per consumer of 93 kilowatt-hours) 2.2 cents per kilowatt-hour; commercial light service 2.8 cents per kilowatt-hour. The actual *rates in force* are presented in Statement "E" and particulars of street lighting service are given in Statement "C."

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*This represents the difference between the revenue received from private companies and other power customers operating under flat-rate contracts, and the result obtained by "costing" these loads on exactly the same basis as that used in determining "costs" in respect of municipal contracts, including sinking fund and other reserves.

†If proper differentiation be made by those undertaking research, between the very different entities of rates on the one hand and the derived quantities of average costs or revenues on the other, a great deal of confusion and misrepresentation will be avoided. Consult introduction to Statement "D" of Section X.

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

POWER UNDER

ASSETS

Niagara System:			
Generating Plants:			
Queenston-Chippawa development		$76,891,330.14	
Ontario Power development, including water rights		22,035,794.89	
Toronto Power development, including water rights		11,522,054.50	
Chats Falls power development		6,167,756.08	
DeCew power development and steam plant, including water rights		11,824,138.13	
Transmission Lines:			
Right-of-way		8,428,947.36	
Steel-tower and wood-pole lines		25,784,995.12	
Transformer Stations		35,257,130.56	
		$197,912,146.78	
Distribution Lines:			
Rural power districts	$6,440,310.91		
Rural lines	35,527.44		
Local distribution systems	422,618.53		
		6,898,456.88	
			$204,810,603.66
Share capital of Hamilton Street Railway Company carried at a value of		$3,000,000.00	
Cash advances to Hamilton Street Railway to cover capital expenditures and for working capital		250,837.27	
			3,250,837.27
Radial Railways in vicinity of Hamilton in process of liquidation—balance expected to be recovered			81,986.56
Balances owing under agreements covering sales of certain properties, plants and equipment:			
By City of Hamilton		$1,812,500.00	
By City of Brantford		116,000.00	
By Canada Coach Lines, Limited	$525,000.00		
Accrued interest thereon	8,845.82		
		533,845.82	
Shares (1,000) of First Preferred stock of Canada Coach Lines, Limited—at par		100,000.00	
			2,562,345.82
Thunder Bay System:			
Nipigon generating plants		$15,688,226.21	
Transmission lines		1,913,736.96	
Transformer stations		974,870.00	
		$18,576,833.17	
Distribution lines:			
Rural power districts		53,939.01	
			18,630,772.18
Carried forward			$229,336,545.49

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS

LIABILITIES

To Province of Ontario:			
Cash advances for Niagara and other systems		$204,973,166.14	
Less: Repayment under provisions of Power Commission Act		17,008,616.73	$187,964,549.41
Grant funds in the hands of the Commission to apply against rural power districts in course of construction or extension			40,114.69
Amount received from the Province for the purpose of making loans under provisions of the Rural Power District Loans Act		$85,000.00	
Note: Loans made to October 31, 1933, $84,912.64.			
Less: Principal instalments on such loans collected and repaid to the Province		19,395.86	65,604.14
Debentures issued by the Commission and guaranteed by the Province of Ontario:			
Four per cent debentures, due 1957, issued in purchase of Ontario Power Company of Niagara Falls	$8,000,000.00		
Interest accrued thereon	80,000.00	$8,080,000.00	
Six per cent debentures, due 1941, issued for the purpose of retiring the 1921 issue of the Ontario Power Company of Niagara Falls	$3,200,000.00		
Interest accrued thereon	67,856.16	3,267,856.16	
Six per cent debentures, due 1940, issued in purchase of the Toronto Power Company Limited	$413,200.00		
Interest accrued thereon	10,330.00	423,530.00	
Six per cent. debentures, due 1940, issued in purchase of certain electrical power equipment of the Toronto and York Radial Railway	$205,800.00		
Interest accrued thereon	5,145.00	210,945.00	
Five per cent debentures, due 1939, issued for the purpose of retiring the 1924 issue of the Toronto Power Company Limited	$4,000,000.00		
Interest accrued thereon	75,000.00	4,075,000.00	
Four per cent debentures, due 1958, issued in purchase of distribution lines of Essex County	$200,000.00		
Interest accrued thereon	3,333.34	203,333.34	
		$16,260,664.50	
Carried forward			$188,070,268.24

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

POWER UNDER

Assets			
Brought forward			$229,336,545.49
Georgian Bay System:			
Generating plants		$3,771,083.28	
Transmission lines		2,602,025.41	
Transformer stations		1,159,113.39	
		$7,532,222.08	
Distribution lines:			
Rural power districts	$780,691.26		
Rural lines	2,807.43		
Local distribution systems	78,924.48		
		862,423.17	
			8,394,645.25
Eastern Ontario System:			
Generating plants, including water rights		$10,114,637.74	
Surveys and engineering re power sites:			
On St. Lawrence river	$734,873.31		
On Ottawa river	94,135.20		
		829,008.51	
Properties purchased for power sites		52,533.33	
Transmission lines		3,926,845.19	
Transformer stations		2,552,680.41	
Rural power districts	$1,619,158.39		
Local distribution systems:			
Electric	108,573.01		
Gas	26,534.67		
Rural lines	90,302.26		
Pulp Mill	52,559.93		
		1,897,128.26	
			19,372,833.44
Northern Ontario Properties—comprising the Nipissing, Wahnapitae, Abitibi-Sudbury and Patricia (Ear Falls) Districts as follows:			
Nipissing District:			
Generating plant		$1,102,909.40	
Transmission lines		172,660.81	
Transformer stations		15,814.00	
		$1,291,384.21	
Rural power districts	$19,254.45		
Local distribution systems	361,065.83		
		380,320.28	
			1,671,704.49
Wahnapitae District:			
Properties, buildings, plant, equipment and water rights on Wahnapitae river		$2,516,994.40	
Transmission lines		139,015.15	
Transformer stations		43,804.00	
		$2,699,813.55	
Local distribution systems		6,630.43	
			2,706,443.98
Carried forward			$261,482,172.65

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS—Continued

LIABILITIES

Brought forward		$16,260,664.50	$188,070,268.24
Debentures issued by the Commission and guaranteed by the Province of Ontario—*Continued.*			
Four per cent debentures, due 1958, issued in purchase of distribution lines in vicinity of Thorold	$100,000.00		
Interest accrued thereon	1,666.67		
		101,666.67	
Four and three-quarter per cent debentures, due 1970, issued in part purchase of Undertakings and Companies from Dominion Power and Transmission Company, Limited as at January 1, 1930	$13,000,000.00		
Interest accrued thereon	206,397.00		
		13,206,397.00	
Five per cent Debentures, due 1935, issued in part purchase of Undertakings and Companies from Dominion Power and Transmission Company, Limited, as at January 1, 1930	$8,000,000.00		
Interest accrued thereon	133,698.00		
		8,133,698.00	
			37,702,426.17
Four and one-half per cent debentures, due 1938, issued to retire Guaranteed Debenture Stock and other debentures	$6,000,000.00		
Interest accrued thereon	67,500.00		
		$6,067,500.00	
Twenty-year debentures maturing in 1952 and bearing interest at the rates of 3½% in first five years, 4% in next five years, 5% in last ten years, issued in purchase of bonds of Ontario Power Service Corporation Limited, which bonds were in turn surrendered in the purchase of the properties and assets of that Company	$17,626,950.00		
Interest accrued thereon	50,707.66		
		17,677,657.66	
			23,745,157.66
Bonds and debenture stock assumed by the Commission and guaranteed by the Province of Ontario:			
First mortgage 5% gold bonds, due 1943, of the Ontario Power Company of Niagara Falls:			
Amount assumed at date of purchase of Company by Commission, August 1, 1917	$9,834,000.00		
Less: Retired by the Commission	2,042,000.00		
	$7,792,000.00		
Interest accrued thereon	97,400.00		
		$7,889,400.00	
First mortgage 5% gold bonds, due 1945, of the Ontario Transmission Company, Limited:			
Amount assumed at date of purchase of Company by Commission, August 1, 1917	$1,772,000.00		
Less: Retired by the Commission	497,000.00		
	$1,275,000.00		
Interest thereon payable November 1, 1933	31,875.00		
		1,306,875.00	
		$9,196,275.00	
Carried forward			$249,517,852.07

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

POWER UNDER

Assets			
Brought forward			$261,482,172.65
Northern Ontario Properties—*Continued.*			
Abitibi-Sudbury District:			
Abitibi Canyon generating plant (uncompleted) and adjacent lines		$16,729,782.45	
Hunta-Copper Cliff line		2,197,690.87	
Meter station at Copper Cliff		2,290.63	18,929,763.95
Note.—The assets of Ontario Power Service Corporation Limited acquired by the Commission—on behalf of the Province—consisted of:			
(1) The uncompleted Abitibi Canyon Development and Lines upon which $15,146,607.31 has been expended;			
(2) $2,697,392.69 unexpended cash in the hands of the Trustee and Receiver, and the purchase price of $14,000,000 was paid:			
(a) In twenty-year debentures of the Commission, guaranteed by the Province, maturing in 1952 and bearing interest at the rates 3½ per cent in first five years, 4 per cent in next five years, 5 per cent in last ten years—to the amount of $17,626,950, and			
(b) In cash $290,150 to the Receiver:			
From the par value of the above mentioned bonds	$17,626,950.00		
may be deducted the amount of cash turned over to the Commission by the Receiver	2,697,392.69		
	$14,929,557.31		
and to the balance is added:			
(1) The cash paid to the Receiver. as above	290,150.00		
(2) In settlement of certain claims	57,406.22		
(3) Expenditures by the Commission to 31st October, 1933 incidental to the purchase of the properties and towards completion of such properties	1,452,668.92		
Total to 31st October, 1933—as shown above	$16,729,782.45		
and leaving in the hands of the Commission a balance in cash of $897,167.55			
Patricia District:			
Ear Falls generating plant			482,224.95
Manitoulin Island:			
Transformer station		$5,098.11	
Rural power district		27,527.68	32,625.79
Bonnechere River Storage:			
Round Lake dam			51,629.23
Service Buildings and Equipment:			
Service buildings and equipment, Toronto		$508,098.10	
Terminal building, Hamilton		750,000.00	
Equipment of storehouse and garage, Hamilton		3,666.40	
Pole yard and equipment, Cobourg		21,629.08	1,283,393.58
Carried forward			$282,261,810.15

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS—Continued

LIABILITIES

Brought forward		$9,196,275.00	$249,517,852.07
Guaranteed 4½% debenture stock, due 1941, of the Toronto Power Company, Limited:			
Amount assumed at date of purchase of Company by Commission, December 1, 1920	$13,558,917.81		
Less: Retired by the Commission	13,483,056.18		
	$75,861.63		
Premium of 5% payable under terms of Trust deed because of notice to retire before maturity	3,793.08		
		79,654.71	
First mortgage 5% gold bonds, due 1933, of the Electrical Development Company of Ontario, Limited:			
Amount assumed at date of purchase of Company by Commission, December 1, 1920	$4,335,000.00		
Less: Retired by the Commission	4,328,500.00		
		6,500.00	
			9,282,429.71
Other debentures assumed:			
In respect of purchase of lines at Streetsville:			
Amount assumed at date of purchase	$6,000.00		
Less: Retired by the Commission	5,541.46		
	$458.54		
Interest accrued thereon	11.46		
		$470.00	
In respect of purchase of original Muskoka Power Development:			
Amount assumed at date of purchase	$50,595.93		
Less: Retired by the Commission	34,101.75		
	$16,494.18		
Interest accrued thereon	634.34		
		17,128.52	
In respect of purchase of sundry rural lines:			
Amount assumed at dates of purchase	$69,289.85		
Less: Retired by the Commission	35,571.24		
	$33,718.61		
Interest accrued thereon	872.47		
		34,591.08	
			52,189.60
Outstanding share capital of the Electrical Development Company of Ontario, Limited		$600.00	
Galetta Electric Power and Milling Company Limited		580.00	
			1,180.00
Accounts payable		$602,435.60	
Interest coupons due but not yet presented for payment		57,067.82	
			659,503.42
Carried forward			$259,513,154.80

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

POWER UNDER

Assets			
Brought forward			$282,261,810.15
Office Buildings:			
On University avenue, Toronto		$525,007.00	
On proposed new building		138,450.36	
On corner Elm street and Centre avenue, Toronto		160,821.95	
			824,279.31
Office Furniture and Equipment:			
At Toronto office		$61,829.27	
At Electrical Inspection office		6,876.22	
			68,705.49
Automobiles and Trucks			3,737.67
Inventories:			
Construction and maintenance tools and equipment		$831,094.20	
Construction material and sundry supplies		894,564.34	
Maintenance material and supplies		631,837.30	
Stationery and office supplies		24,990.91	
			2,382,486.75
Sinking Funds:			
Employed to make repayments to the Province of Ontario under the terms of the Power Commission Act	$17,008,616.73		
Employed in retirement of bonds issued or assumed by the Commission and guaranteed by the Province of Ontario	7,991,128.38		
Invested in securities of the Province of Ontario, which stand:			
(a) Deposited with the Provincial Treasurer—par value, $2,101,000.00		$2,087,573.08	
(b) In the hands of the Commission—par value, $300,000.00		295,200.00	
Interest accrued thereon		33,162.01	
			2,415,935.09
Insurance Funds:			
(a) Invested in securities of the Dominion of Canada—par value, $800,000.00		$802,430.84	
(b) Invested in securities of the Province of Ontario—par value, $28,000.00		28,727.24	
Interest accrued thereon		616.53	
		$831,774.61	
(c) On deposit with Workmen's Compensation Board		48,543.01	
			880,317.62
Staff Pension Funds:			
(a) Invested in securities of the Province of Ontario—par value, $3,270,000.00		$3,235,755.95	
(b) Invested in securities of the Dominion of Canada—par value, $95,000.00		93,427.00	
Interest accrued thereon		37,250.14	
			3,366,433.09
Carried forward			$292,203,705.17

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS—Continued

LIABILITIES

Brought forward		$259,513,154.80
Bank of Montreal:		
Short term loan (guaranteed by Province of Ontario)		2,500,000.00
Other short term loan (secured by pledge of Dominion of Canada and Province of Ontario Bonds)		3,300,000.00
Insurance Department:		
Outstanding claims and awards	$816,542.62	
Surplus	121,561.38	
		938,104.00
Reserve for Staff Pensions		3,384,757.69
Balances due to Municipalities following the annual adjustments in respect of power supplied to them up to October 31, 1933, in reduction of the amounts charged to them by monthly interim bills:		
Niagara system	$810,579.69	
Georgian Bay system	74,760.04	
Eastern Ontario system	131,601.92	
Nipissing rural power district	8,987.75	
		1,025,929.40
Reserves for Sinking Fund:		
Niagara system	$24,564,512.19	
Niagara rural lines	14,046.12	
Thunder Bay system	1,063,953.45	
Georgian Bay system	936,659.56	
Georgian Bay rural lines	846.41	
Eastern Ontario system	1,064,379.57	
Nipissing rural power district	682.76	
Bonnechere storage	3,536.97	
Manitoulin rural power district	285.45	
	$27,648,902.48	
Service buildings and equipment	120,334.12	
Office buildings	156,249.61	
		27,925,486.21
Reserves for Renewals:		
Niagara system	$18,686,189.89	
Niagara rural lines	6,204.62	
Thunder Bay system	1,325,319.49	
Georgian Bay system	1,454,220.59	
Georgian Bay rural lines	517.15	
Eastern Ontario system	3,142,627.03	
Northern Ontario properties	413,679.10	
Nipissing rural power district	3,800.33	
Manitoulin rural power district	996.29	
	$25,033,554.49	
Service buildings and equipment	315,079.89	
Office buildings	115,185.37	
		25,463,819.75
Carried forward		$324,051,251.85

HYDRO-ELECTRIC POWER

Detailed Statements of Assets

POWER UNDER

ASSETS

Brought forward			$292,203,705.17
Reserve Funds:			
(a) Invested in securities of the Dominion of Canada—par value, $2,501,850.00		$2,503,517.83	
(b) Invested in securities of the Canadian National Railway, guaranteed by the Dominion of Canada—par value, $50,000.00		52,592.03	
(c) Invested in securities of the Province of Ontario—par value, $29,618,500.00		29,207,884.53	
(d) Invested in securities of the Commission guaranteed by the Province of Ontario—par value, $1,200,000.00		1,185,212.40	
(e) Invested in securities of the Temiskaming and Northern Ontario Railway, guaranteed by the Province of Ontario—par value, $240,000.00		207,011.57	
(f) Invested in debentures of Ontario municipalities, which debentures were received from certain municipalities upon the sale thereto of their local distribution systems—par value, $1,439,244.34		1,324,159.94	
Interest accrued thereon		425,111.98	
			34,905,490.28
Other bonds and shares taken over with the plant assets of power companies acquired—carried at a value of $24,915.00		$24,915.00	
Interest accrued thereon		332.51	
			25,247.51
Cash:			
In banks		$2,066,558.17	
In banks to pay debenture stock and bonds overdue but not presented		86,154.71	
In banks to pay bond interest due November 1, 1933, and interest coupons overdue but not presented		88,942.82	
Sinking funds on deposit with trustees for bondholders		775.57	
In hands of employees as advances on account of expenses		76,532.71	
		$2,318,963.98	
Less: Funds of Guelph Radial Railway shown elsewhere in this balance sheet		6,846.28	
			2,312,117.70
Accounts Receivable:			
Due by municipalities and sundry customers in respect of construction work, supply sales, etc.	$323,007.42		
Less: Reserve for doubtful accounts	22,797.14		
		$300,210.28	
Due by municipalities and sundry customers in respect of power accounts	$4,091,739.92		
Less: Reserve for doubtful accounts	665,798.60		
		3,425,941.32	
Sinking fund and interest accounts owing in respect of rural lines		3,848.04	
			3,729,999.64
Carried forward			$333,176,560.30

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS—Continued

LIABILITIES

Brought forward		$324,051,251.85
Reserves for Obsolescence and Contingencies:		
Niagara system	$9,106,600.64	
Niagara rural lines	3,047.63	
Thunder Bay system	715,396.31	
Georgian Bay system	429,836.32	
Georgian Bay rural lines	222.36	
Eastern Ontario system	1,131,109.22	
Northern Ontario properties	211,603.46	
Nipissing rural power district	1,317.98	
Manitoulin rural power district	476.90	
		11,599,610.82
Balance at credit of Interest Account		20,221.23

Contingent Liabilities:

In respect of contracts entered into for power undertakings in course of construction, $165,265.78.

Carried forward	$335,671,083.90

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

POWER UNDER

ASSETS

Brought forward			$333,176,560.30
Balances due by Municipalities—following the annual adjustment—in respect of power supplied to them up to October 31, 1933, in addition to the amounts charged to them by monthly interim bills:			
Niagara system		$484,288.11	
Georgian Bay system		111,697.27	
Eastern Ontario system		88,975.05	
Thunder Bay system		101,293.11	
Manitoulin rural power district		1,383.84	
			787,637.38
Rural Loans:			
Loans made to persons under provisions of the Rural Power District Loans Act in respect of installations of electrical equipment		$84,912.64	
Instalments of principal received		20,767.22	
		$64,145.42	
Interest instalments due		896.83	
			65,042.25
Work in Progress:			
Expenditures to date incidental to Water Heater Campaign, including purchases of materials, also engineering, administration, printing, advertising, etc.	$387,693.89		
Less: portion written off against revenue in year ending October 31, 1933	63,547.14		
		$324,146.75	
Expenditure on account of various systems chargeable upon completion to:			
Capital construction	$22,011.36		
Operating and maintenance expenses	22,553.65		
		44,565.01	
			368,711.76
Insurance Unexpired			37,242.26
Discount on Debentures issued by the Commission, less amounts written off:			
On debenture issue of $3,200,000 maturing 1941		$67,650.81	
On debenture issue of $4,000,000 maturing 1939		41,018.40	
			108,669.21
Total Power Undertakings			$334,543,863.16

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

TAKINGS—Continued

LIABILITIES

Brought forward	$335,671,083.90
Total Power Undertakings	$335,671,083.90

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

RADIAL RAILWAY

Assets			
Brought forward			$334,543,863.16
Guelph Radial Railway:			
Road and equipment		$444,205.06	
Materials and supplies		5,499.14	
Reserve funds:			
(a) Invested in securities of the Province of Ontario—par value, $25,000.00	$22,534.90		
(b) Invested in securities of the Dominion of Canada—par value, $25,000.00	24,779.92		
Interest accrued thereon	1,057.66	48,372.48	
Cash:			
In the general bank account of the Commission at Toronto	$6,846.28		
In bank at Guelph	1,496.99		
In hands of employees as advances on account of expenses	900.00	9,243.27	
Accounts receivable:	$1,782.12		
Less: Reserve for doubtful accounts	500.00	1,282.12	
Insurance and expenses prepaid		1,014.90	
Due by the City of Guelph:			
Operating deficit for the year ending October 31, 1933—as per Operating Account	$41,332.32		
Less: Paid on account, by the City	38,000.00	3,332.32	512,949.29
Sandwich, Windsor & Amherstburg Railway Company:			
Undertakings of the Sandwich, Windsor and Amherstburg Railway Company to pay the Hydro Radial Debentures issued by the Commission, and guaranteed by the Province of Ontario, in purchase of, and for the extension and betterment of, the Sandwich, Windsor and Amherstburg Railway—as per agreement covering the transfer at July 31st, 1931, of the Railway, by the Commission, to the Company		$5,816,205.00	
Interest accrued on such debentures		61,839.63	
Note.—The Hydro Radial Debentures above mentioned (and which are also listed opposite as liabilities of the Commission) are—under Statute of 1930 and under Trust Deed, dated July 31, 1931, in favour of the Guaranty Trust Company, as Trustee—secured by:			
(a) A charge upon the properties of the Railway.			
(b) Debentures of the eleven municipalities which own the Railway Company, to the aggregate amount of $5,816,205.00.			5,878,044.63
Carried forward			$340,934,857.08

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

UNDERTAKINGS—Continued

LIABILITES

Brought forward			$335,671,083.90
In respect of the Guelph Radial Railway:			
City of Guelph—purchase price of the Railway payable thereto, in half yearly instalments according to purchase agreement	$150,000.00		
Less: Twenty-five instalments thereon	81,856.05		
		$68,143.95	
Debentures issued by the Commission and guaranteed by the Province of Ontario:			
Five per cent Debentures due 1970, issued for the purpose of making extensions and betterments		300,000.00	
Accounts payable and accrued charges	$794.42		
Provision for unredeemed tickets	1,300.00		
		2,094.42	
Premium on sale of debentures—less portion written off		21,229.14	
Reserve—created by payment of instalments on the purchase price out of the revenue of the road and assessments against the City of Guelph		81,856.05	
Reserve for sinking fund		8,152.75	
Reserve for renewal of road and equipment		31,472.98	
			512,949.29
In respect of the Sandwich, Windsor & Amherstburg Railway Company:			
Debentures issued under provisions of the Hydro-Electric Railway Act, by the Commission and guaranteed by the Province of Ontario in purchase of the Railway and for the purpose of making extensions and betterments thereto.			
Four and one-half per cent debentures, due April 1, 1960		$2,100,000.00	
Six per cent debentures, due July 1, 1961		900,000.00	
Five per cent debentures, due September 1, 1943		966,205.00	
Five per cent debentures, due July 1, 1945		750,000.00	
Five per cent debentures, due September 1, 1945		100,000.00	
Five per cent debentures, due July 15, 1946		1,000,000.00	
		$5,816,205.00	
Interest accrued thereon		61,839.63	
			5,878,044.63
Carried forward			$342,062,077.82

HYDRO-ELECTRIC POWER

Detailed Statement of Assets

RADIAL RAILWAY

ASSETS

Brought forward		$340,934,857.08
Toronto and York Radial Railway:		
City of Toronto—debentures held as collateral security for the repayment of the Hydro Radial debentures issued in purchase of the Toronto and York Radial Railway—as per agreement covering the transfer (in January, 1927) of the railway to the City of Toronto	$2,375,000.00	
City of Toronto—interest accrued on $2,375,000 debentures issued by the Commission in purchase of the Toronto and York Radial Railway	59,375.00	
		2,434,375.00
Port Credit to St. Catharines Radial Railway:		
Purchase of right-of-way and carrying charges (taxes, less rental revenue) down to October 31, 1933	$73,421.81	
Construction materials purchased, less amount realized on sale thereof	117,510.09	
Surveying, engineering, administrative expenses and interest	399,969.62	
		590,901.52
Toronto to Port Credit Radial Railway:		
Purchase of right-of-way and carrying charges (taxes, less rental revenue) down to October 31, 1933—less amounts realized on properties sold	$486,044.65	
Surveying, engineering, administrative expenses and interest	550,274.57	
		1,036,319.22
TOTAL		$344,996,452.82

COMMISSION OF ONTARIO

and Liabilities, October 31, 1933

UNDERTAKINGS—Continued

LIABILITIES

Brought forward		$342,062,077.82
In respect of Toronto and York Radial Railway:		
Debentures issued by the Commission and guaranteed by the Province of Ontario:		
Six per cent debentures, due 1940, issued in purchase of the Metropolitan, Scarboro and Mimico Radial Railway divisions	$2,375,000.00	
Interest accrued thereon	59,375.00	2,434,375.00
In respect of the Port Credit to St. Catharines Radial Railway:		
Bank of Montreal—advances (secured by hypothecation of $1,200,000 Hydro Radial debentures, being part of an issue of $11,360,363 guaranteed by the Province of Ontario)		500,000.00
TOTAL		$344,996,452.82

NIAGARA

Operating Account for the

COSTS OF OPERATION AS PROVIDED UNDER THE TERMS OF THE POWER COMMISSION ACT

Power purchased		$6,738,406.63
Costs of operation and maintenance, including the proportion of administrative expenses chargeable to the operation of this system:		
Generation and transmission equipment	$4,187,507.27	
Rural power districts	557,105.44	
Water heater costs written off in year to extent of revenue available from water heater loads	55,561 07	
		4,800,173.78
Interest (including exchange thereon) on capital investment in:		
Generation and transmission equipment	$10,151,547.62	
Rural power districts	294,442.54	
		10,445,990.16
Provision for renewals of:		
Generation and transmission equipment	$1,376,778.87	
Rural power districts	251,397.57	
		1,628,176.44
Provision for obsolescence and contingencies in respect of:		
Rural power districts	$125,698.79	
		125,698.79
Provision for sinking funds for repayment of the cash advances by the province of Ontario to the Commission and for the retirement of the bonds issued by and assumed by the Commission:		
By charges included in the cost of power delivered to municipalities and rural power districts	$1,385,325.62	
By charges against contracts with private companies which purchased power and local distribution systems	431,003.02	
By charges included in the cost of distribution of power within rural power districts	66,871.35	
		1,883,199.99
Total costs of operation		$25,621,645.79
Deduct:		
Cost to the Commission (including provisions for sinking fund $431,003.02 and renewals $312,153.93) of power delivered to private companies and customers under flat rate contracts, in excess of the revenue received from them—which excess has been charged against the Contingency Reserve of the system	$2,221,034.43	
Amount appropriated from the Contingency Reserve of the system and applied proportionately to each municipality in reduction of the costs of operation	2,015,572.30	
		4,236,606.73
		$21,385,039.06

SYSTEM

Year Ending October 31, 1933

REVENUE FOR PERIOD

Amounts received from (or billed against) each municipality by the Commission	$15,136,167.92	
Power sold to private companies and customers, also miscellaneous revenue	3,817,900.47	
Amounts received from (or billed against) customers in rural power districts	2,063,370.73	
Power supplied at cost to Sandwich, Windsor & Amherstburg Railway Company and certain fixed charges billed against Windsor, Essex & Lake Shore Electric Railway Association	79,282.94	$21,096,722.06
Add:		
Amounts due by certain municipalities, being the difference between the sums received (or billed) at interim rates and the amounts charged—following annual adjustment—in respect of power supplied in the year	$320,603.06	
Amounts due by municipalities comprising certain rural power districts, being the difference between the sums received from (or billed against) customers therein and the amounts charged to such districts—following annual adjustment—in respect of power supplied in the year	92,501.40	413,104.46
		$21,509,826.52
Deduct:		
Amounts received from (or billed against) certain municipalities at interim rates in excess of the amounts charged—following annual adjustment—in respect of power supplied in the year	$74,541.31	
Amounts received from (or billed against) customers in certain rural power districts in excess of the amounts charged to such districts—following annual adjustment—in respect of power supplied in the year	50,246.15	124,787.46
Revenue		$21,385,039.06
		$21,385,039.06

NOTE—Operating account of Hamilton Street Railway Company is shown on page 274.

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Acton	33.00	33.00	243,602.11	784.6	6,798.72	6,021.07	12,201.19
Water heater load	......	......	....	2.5	....	*84.89	....
Agincourt	40.00	40.00	49,545.82	136.3	1,181.07	1,288.89	2,460.08
Water heater load	......	......	....	0.1	....	*3.94	....
Ailsa Craig	48.00	48.00	36,770.85	89.2	772.94	1,636.43	1,769.18
Alvinston	90.00	90.00	61,292.09	74.9	649.02	1,937.56	2,888.73
Amherstburg	40.00	38.00	193,881.50	587.0	5,086.48	5,161.93	9,666.41
Water heater load	......	......	....	9.6		*349.60	....
Ancaster twp	30.00	30.00	68,899.46	246.2	2,133.37	1,997.99	3,497.22
Water heater load	......	......	....	1.5	....	*48.43	....
Arkona	75.00	75.00	33,234.98	52.7	456.66	1,483.80	1,596.20
Aylmer	35.00	35.00	138,589.66	440.6	3,817.89	4,156.84	6,913.83
Water heater load	......	......	....	0.3	....	*10.79	....
Ayr	35.00	34.00	47,654.46	162.7	1,409.83	1,592.46	2,392.25
Baden	32.00	32.00	75,357.51	253.7	2,198.36	2,146.68	3,734.06
Beachville	33.00	33.00	128,358.54	440.5	3,817.02	3,529.00	6,433.39
Water heater load	......	......	....	0.8	....	*26.29	....
Belle River	38.00	38.00	36,481.80	109.1	945.37	1,367.92	1,816.94
Water heater load	......	......	....	0.3	....	*12.14	....
Blenheim	39.00	39.00	113,363.81	336.1	2,912.37	3,763.76	5,603.33
Water heater load	......	......	....	1.8	....	*70.62	....
Blyth	58.00	58.00	40,808.82	87.6	759.07	1,544.97	1,984.35
Bolton	46.00	44.00	44,228.76	119.4	1,034.63	1,291.32	2,154.97
Water heater load	......	......	....	0.8	....	*32.89	....
Bothwell	45.00	45.00	36,460.59	96.9	839.66	1,659.09	1,752.05
Water heater load	......	......	....	0.4	....	*19.01	....
Brampton	29.00	30.00	534,738.02	2,003.6	17,361.60	16,929.76	27,085.25
Water heater load	......	......	....	4.8	....	*151.59	....
Brantford	27.00	27.00	2,800,848.27	11,548.4	100,069.22	66,539.77	142,183.68
Water heater load	......	......	....	19.6	....	*555.01	....
Brantford twp	29.00	30.00	144,015.51	551.1	4,775.39	4,999.47	7,376.35
Water heater load	......	......	....	1.2	....	*38.32	....
Bridgeport	36.00	36.00	32,429.42	102.1	884.72	1,048.85	1,635.51
Water heater load	......	......	....	0.3	....	*11.16	....
Brigden	68.00	65.00	37,902.77	69.6	603.10	1,348.57	1,812.55
Brussels	54.00	54.00	49,993.30	114.1	988.70	1,892.64	2,434.21
Burford	35.00	35.00	41,994.31	140.6	1,218.33	1,289.39	2,101.43
Burgessville	44.00	50.00	16,577.41	40.1	347.48	871.19	806.01
Caledonia	29.00	29.00	73,657.68	259.2	2,246.02	2,085.73	3,700.36

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,085.88	2,280.31	29,387.17	2,746.10	26,641.07	26,712.95	....	13.01
....	....	84.89	....	84.89			
442.11	472.07	5,844.22	477.05	5,367.17	5,603.20	232.09	....
....	....	3.94	....	3.94			
371.91	354.57	4,905.03	312.20	4,592.83	4,382.79	....	210.04
765.04	618.41	6,858.76	262.15	6,596.61	6,926.75	330.14	....
1,685.51	1,830.67	23,431.00	2,054.50	21,376.50	23,480.33	1,754.23	....
....	....	349.60	....	349.60			
545.01	636.47	8,810.06	861.70	7,948.36	7,639.28	....	357.51
....	....	48.43	....	48.43			
388.91	330.25	4,255.82	184.45	4,071.37	4,057.01	....	14.36
1,193.74	1,299.83	17,382.13	1,542.10	15,840.03	15;844.65	....	6.17
....	....	10.79	....	10.79			
389.78	443.10	6,227.42	569.45	5,657.97	5,702.71	44.74	....
621.74	701.97	9,402.81	887.95	8,514.86	8,346.00	....	168.86
1,043.31	1,192.71	16,015.43	1,541.75	14,473.68	14,952.55	452.58	....
....	....	26.29	....	26.29			
319.92	344.92	4,795.07	381.85	4,413.22	4,262.57	....	162.79
....	....	12.14	....	12.14			
1,011.75	1,072.13	14,363.34	1,176.35	13,186.99	13,517.39	259.78	....
....	....	70.62	....	70.62			
433.55	397.33	5,119.27	306.60	4,812.67	5,205.58	392.91	....
422.60	422.97	5,326.49	417.90	4,908.59	5,471.14	529.66	....
....	....	32.89	....	32.89			
346.85	347.82	4,945.47	339.15	4,606.32	4,487.44	....	137.89
....	....	19.01	....	19.01			
4,006.01	4,907.08	70,289.70	7,012.60	63,277.10	61,536.07	....	1,892.62
....	....	151.59	....	151.59			
21,022.23	25,681.31	355,496.21	40,419.40	315,076.81	311,164.45	....	4,467.37
....	....	555.01	....	555.01			
1,059.27	1,317.71	19,528.19	1,928.85	17,599.34	16,904.56	....	733.10
....	....	38.32	....	38.32			
281.74	304.64	4,155.46	357.35	3,798.11	3,782.23	....	27.04
....	....	11.16	....	11.16			
425.13	374.03	4,563.38	243.60	4,319.78	4,674.96	355.18	....
517.29	484.25	6,317.09	399.35	5,917.74	6,313.81	396.07	....
349.21	391.61	5,349.97	492.10	4,857.87	5,047.46	189.59	....
168.39	160.12	2,353.19	140.35	2,212.84	2,004.39	....	208.45
587.67	679.83	9,299.61	907.20	8,392.41	7,732.85	....	659.56

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Campbellville	62.00	60.00	8,554.80	25.1	217.50	862.52	427.57
Cayuga	50.00	48.00	42,983.36	99.2	859.59	1,892.38	2,087.01
Chatham	30.00	30.00	1,069,849.84	3,811.3	33,025.69	26,834.66	53,621.29
Water heater load				23.9		*741.55	
Chippawa	25.00	25.00	43,910.02	196.5	1,702.71	1,140.30	2,256.95
Water heater load				1.9		*49.16	
Clifford	59.00	59.00	29,254.87	56.7	491.32	1,485.51	1,414.90
Clinton	38.00	38.00	147,343.39	436.6	3,783.23	4,791.07	7,275.15
Comber	50.00	50.00	51,719.24	124.7	1,080.55	1,941.06	2,502.60
Cottam	44.00	44.00	23,215.62	59.9	519.05	725.64	1,151.78
Courtright	72.00	72.00	23,042.55	39.4	341.41	1,361.01	1,105.99
Dashwood	50.00	50.00	21,950.30	50.2	434.99	904.58	1,058.20
Delaware	38.00	38.00	10,460.48	36.1	312.81	505.55	525.77
Water heater load				1.0		*38.75	
Dorchester	38.00	38.00	27,127.73	77.4	670.69	1,113.01	1,266.88
Water heater load				0.4		*16.78	
Drayton	58.00	58.00	44,952.50	89.9	779.00	2,165.04	2,167.42
Water heater load				0.1		*6.37	
Dresden	45.00	45.00	99,732.05	269.4	2,334.41	3,899.89	4,898.30
Water heater load				0.5		*22.43	
Drumbo	45.00	45.00	21,821.76	64.0	554.57	868.67	1,080.78
Water heater load				0.2		*8.39	
Dublin	58.00	58.00	18,213.53	36.9	319.75	806.84	874.67
Dundas	25.00	25.00	323,823.83	1,285.4	11,138.25	6,590.72	16,336.13
Water heater load				3.5		*94.27	
Dunnville	35.00	34.00	225,632.91	766.8	6,644.48	4,094.26	11,367.20
Dutton	38.00	38.00	63,104.22	210.1	1,820.56	2,474.00	3,160.21
Water heater load				0.1		*3.73	
East Windsor	31.00	31.00	680,732.50	2,256.0	19,548.72	15,469.59	34,025.34
Water heater load				19.8		*640.83	
Elmira	34.00	34.00	187,060.34	580.5	5,030.15	5,225.82	9,203.85
Water heater load				4.1		*147.12	
Elora	35.00	35.00	92,017.99	275.4	2,386.40	2,784.70	4,515.58
Water heater load				0.4		*15.14	
Embro	50.00	48.00	34,248.56	93.4	809.33	1,472.46	1,666.30
Water heater load				0.5		*22.84	
Erieau	56.00	56.00	31,739.99	69.6	603.10	1,173.14	1,554.08
Water heater load				0.1		*5.36	
Erie Beach	70.00	70.00	6,994.65	13.7	118.71	348.13	339.44

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year.	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
78.02	81.01	1,666.62	87.85	1,578.77	1,543.65	....	35.12
441.34	412.12	5,692.44	347.20	5,345.24	4,912.83	....	432.41
8,228.93	9,880.44	131,591 01	13,339.55	118,251.46	118,469.37	....	523.64
....	....	741.55	....	741.55			
280.21	391.55	5,771.72	687.75	5,083.97	5,091.30	....	41.83
....	....	49.16	....	49.16			
323.22	287.09	4,002.04	198.45	3,803.59	3,431.58	....	372.01
1,320.10	1,390.10	18,559.65	1,528.10	17,031.55	16,535.62	....	495.93
519.74	499.13	6,543.08	436.45	6,106.63	6,385.33	278.70	....
223.42	222.91	2,842.80	209.65	2,633.15	2,703.79	70.64	....
264.45	228.43	3,301.29	137.90	3,163.39	2,910.07	....	253.32
228.54	213.04	2,839.35	175.70	2,663.65	2,574.46	....	89.19
84.09	96.87	1,525.09	126.35	1,398.74	1,441.99	4.50	....
....	....	38.75	....	38.75			
226.59	240.19	3,517.36	270.90	3,246.46	3,028.94	....	234.30
....	....	16.78	....	16.78			
491.02	440.11	6,042.59	314.65	5,727.94	5,355.23	....	379.08
....	....	6.37	....	6.37			
944.35	953.00	13,029.95	942.90	12,087.05	12,447.91	338.43	....
....	....	22.43	....	22.43			
199.47	206.70	2,910.19	224.00	2,686.19	2,953.38	258.80	....
....	....	8.39	....	8.39			
197.98	178.14	2,377.38	129.15	2,248.23	2,138.24	....	109.99
2,309.51	2,946.76	39,321.37	4,498.90	34,822.47	33,396.53	....	1,520.21
....	....	94.27	....	94.27			
1,901.74	2,099.53	26,107.21	2,683.80	23,423.41	26,898.91	3,475.50	....
525 65	589.24	8,569.66	735.35	7,834.31	8,178.43	340.39	....
....	....	3.73	....	3.73			
5,511.24	6,357.13	80,912.02	7,896.00	73,016.02	72,574.41	....	1,082.44
....	....	640.83	....	640.83			
1,642.09	1,760.27	22,862.18	2,031.75	20,830.43	20,436.94	....	540.61
....	....	147.12	....	147.12			
830.70	869.57	11,386.95	963.90	10,423.05	9,921.38	....	516.81
....	....	15.14	....	15.14			
322.04	323.68	4,593.81	326.90	4,266.91	4,640.33	350.58	....
....	....	22.84	....	22.84			
333.49	309.05	3,972.86	243.60	3,729.26	3,998.31	263.69	....
....	....	5.36	....	5.36			
76 85	68.70	951.83	47.95	903.88	981.29	77.41	....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Essex	35.00	35.00	105,032.26	316.9	2,746.00	2,655.15	5,229.58
Water heater load				0.8		*28.85	
Etobicoke twp.	29.00	28.00	790,357.84	3,039.1	26,334.42	16,209.72	40,476.31
Water heater load				35.7		*981.61	
Exeter	38.00	38.00	133,714.37	389.2	3,372.50	4,272.46	6,612.97
Water heater load				1.9		*75.12	
Fergus	35.00	35.00	211,972.65	636.1	5,511.94	6,012.23	10,565.22
Water heater load				2.8		*104.66	
Fonthill	34.00	36.00	29,584.77	112.2	972.24	1,174.56	1,516.93
Water heater load				1.5		*50.39	
Forest	48.00	48.00	124,794.14	309.4	2,681.01	4,205.40	6,127.95
Water heater load				0.9		*41.80	
Galt	27.00	27.00	1,425,076.37	5,510.5	47,749.60	34,927.33	71,957.36
Water heater load				9.0		*259.20	
Georgetown	35.00	35.00	326,244.17	970.2	8,406.98	8,535.53	16,166.86
Water heater load				1.9		*67.50	
Glencoe	58.00	58.00	78,757.34	159.9	1,385.57	2,969.92	3,806.32
Water heater load				0.4		*23.07	
Goderich	42.00	42.00	361,661.44	950.4	8,235.41	11,719.07	17,648.27
Water heater load				8.2		*355.65	
Granton	50.00	50.00	23,491.47	56.2	486.98	1,180.90	1,136.40
Water heater load				0.3		*16.40	
Guelph	27.00	28.00	1,844,316.85	7,122.3	61,716.17	45,760.52	93,407.02
Water heater load				17.4		*503.89	
Hagersville	31.00	31.00	177,314.24	550.8	4,772.79	4,876.82	8,635.07
Hamilton	23.50	24.50	18,808,727.40	76,884.1	666,216.32	326,554.82	963,113.90
Water heater load				186.2		*4,811.89	
Harriston	44.00	44.00	103,670.12	277.5	2,404.59	4,644.08	5,073.95
Harrow	40.00	38.00	111,039.96	319.4	2,767.67	3,213.73	5,542.91
Water heater load				2.5		*97.53	
Hensall	50.00	50.00	60,955.56	133.5	1,156.80	2,131.21	2,964.91
Hespeler	29.00	29.00	445,148.80	1,712.5	14,839.16	11,003.35	22,744.66
Water heater load				1.7		*49.54	
Highgate	46.00	48.00	24,587.78	62.9	545.04	946.45	1,192.07
Water heater load				0.2		*9.35	
Humberstone	28.00	28.00	84,994.57	322.3	2,792.79	2,006.08	4,346.29
Ingersoll	28.00	28.00	542,693.39	1,968.7	17,059.18	13,755.71	27,332.73
Water heater load				3.6		*110.56	
Jarvis	38.00	38.00	58,523.85	148.6	1,287.65	2,042.11	2,859.44
Kingsville	38.00	38.00	141,829.66	405.3	3,512.11	3,992.57	7,028.77
Water heater load				4.3		*167.05	
Kitchener	27.00	27.00	3,644,588.90	14,083.7	122,038.12	79,336.20	184,765.34
Water heater load				59.9		*1,686.66	
Lambeth	42.00	42.00	33,398.95	97.3	843.12	1,254.98	1,654.89
Water heater load				1.3		*53.90	

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
915.22	992.01	12,537.96	1,109.15	11,428.81	11,422.60	....	35.06
....	....	28.85	....	28.85			
5,719.02	7,229.59	95,969.06	10,636.85	85,332.21	89,095.06	2,781.24	....
....	....	981.61	....	981.61			
1,224.86	1,267.80	16,750.59	1,362.20	15,388.39	15,264.86	....	198.65
....	....	75.12	....	75.12			
1,910.22	2,002.54	26,002.15	2,226.35	23,775.80	22,994.23	....	886.23
....	....	104.66	....	104.66			
227.20	271.09	4,162.02	392.70	3,769.32	4,141.26	321.55	....
....	....	50.39	....	50.39			
1,234.36	1,202.54	15,451.26	1,082.90	14,368.36	15,280.61	870.45	....
....	....	41.80	....	41.80			
10,343.20	13,009.86	177,987.35	19,286.75	158,700.60	159,384.50	424.70	....
....	....	259.20	....	259.20			
2,956.63	3,084.62	39,150.62	3,395.70	35,754.92	35,014.74	....	807.68
....	....	67.50	....	67.50			
851.22	769.72	9,782.75	559.65	9,223.10	9,536.79	290.62	....
....	....	23.07	....	23.07			
3,487.41	3,456.90	44,547.06	3,326.40	41,220.66	40,149.12	....	1,427.19
....	....	355.65	....	355.65			
238.54	226.36	3,269.18	196.70	3,072.48	2,878.32	....	210.56
....	....	16.40	....	16.40			
13,451.78	16,850.69	231,186.18	24,928.05	206,258.13	204,139.60	....	2,622.42
....	....	503.89	....	503.89			
1,544.50	1,652.23	21,481.41	1,927.80	19,553.61	17,563.88	....	1,989.73
129,735.34	170,356.44	2,255,976.82	269,094.35	1,986,882.47	1,911,204.44	....	80,489.92
....	....	4,811.89	....	4,811.89			
989.34	989.05	14,101.01	971.25	13,129.76	12,522.39	....	607.37
1,000.12	1,054.37	13,578.80	1,117.90	12,460.90	12,660.95	102.52	....
....	....	97.53	....	97.53			
646.48	593.77	7,493.17	467.25	7,025.92	6,853.88	....	172.04
3,248.52	4,067.06	55,902.75	5,993.75	49,909.00	52,808.71	2,850.17	....
....	....	49.54	....	49.54			
239.94	236.14	3,159.64	220.15	2,939.49	3,083.63	134.79	....
....	....	9.35	....	9.35			
646.17	778.82	10,570.15	1,128.05	9,442.10	9,279.98	....	162.12
4,200.09	5,005.73	67,353.44	6,890.45	60,462.99	56,860.73	....	3,712.82
....	....	110.56	....	110.56			
576.99	558.29	7,324.48	520.10	6,804.38	5,808.52	....	995.86
1,283.00	1,347.70	17,164.15	1,418.55	15,745.60	15,982.99	70.34	....
....	....	167.05	....	167.05			
26,433.13	33,295.37	445,868.16	49,292.95	396,575.21	392,768.37	....	5,493.50
....	....	1,686.66	....	1,686.66			
305.56	316.49	4,375.04	340.55	4,034.49	4,241.33	152.94	....
....	....	53.90	....	53.90			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
La Salle	36.00	35.00	63,407.59	197.3	1,709.64	1,683.75	3,183.38
Water heater load				0.8		*28.48	
Leamington	37.00	37.00	343,897.76	973.8	8,438.18	8,865.52	17,118.95
Water heater load				6.1		*234.37	
Listowel	37.00	37.00	261,715.70	820.9	7,113.27	9,882.39	13,026.69
Water heater load				2.1		*81.49	
London	26.00	26.00	7,053,406.79	28,067.1	243,207.12	140,290.95	359,353.94
Water heater load				265.8		*7,180.59	
London Railway Commission			312,323.66	990.0	8,578.55	11,590.42	15,368.06
London twp	34.00	34.00	94,623.02	323.6	2,804.06	2,895.13	4,799.64
Water heater load				5.2		*176.95	
Long Branch	29.00	30.00	183,962.18	679.0	5,883.67	4,109.14	9,491.13
Water heater load				3.0		*89.22	
Lucan	37.00	37.00	39,444.97	127.4	1,103.95	1,627.71	1,931.29
Lynden	40.00	40.00	27,090.24	82.6	715.75	999.24	1,316.26
Markham	43.00	43.00	71,114.45	221.2	1,916.74	3,254.53	3,556.29
Water heater load				0.7		*29.08	
Merlin	45.00	45.00	33,765.03	85.6	741.74	1,313.44	1,645.53
Water heater load				0.1		*4.74	
Merritton	23.00	23.00	578,017.16	2,715.2	23,527.76	11,735.69	30,552.92
Water heater load				3.4		*81.24	
Milton	34.00	34.00	165,314.16	542.1	4,697.41	6,256.99	8,033.10
Water heater load				4.9		*181.04	
Milverton	35.00	35.00	90,993.40	283.4	2,455.72	2,899.96	4,435.33
Water heater load				0.8		*29.47	
Mimico	26.00	26.00	486,775.29	1,981.4	17,169.23	10,271.61	24,960.35
Water heater load				24.6		*660.21	
Mitchell	33.00	33.00	123,079.96	414.9	3,595.19	3,837.35	6,126.32
Water heater load				3.6		*123.64	
Moorefield	61.00	61.00	21,464.55	41.4	358.74	1,042.21	1,030.55
Mount Brydges	42.00	42.00	26,632.82	84.1	728.74	1,261.12	1,328.59
Water heater load				0.7		*29.16	
Newbury	52.00	54.00	18,725.58	42.0	363.94	754.55	911.17
New Hamburg	35.00	35.00	139,549.43	444.7	3,853.42	3,814.43	6,924.37
Water heater load				1.3		*45.45	
New Toronto	30.00	30.00	1,260,255.14	4,618.0	40,015.91	27,946.31	63,546.56
Water heater load				6.8		*200.99	
Niagara Falls	19.00	19.00	1,645,138.21	8,347.8	72,335.38	29,559.54	86,261.49
Niagara-on-the-Lake	27.00	27.00	107,216.16	480.8	4,166.23	3,685.10	5,562.60
Water heater load				1.7		*47.27	
Norwich	34.00	34.00	96,599.07	308.8	2,675.81	2,899.68	4,785.58
Water heater load				1.1		*39.24	
Oil Springs	45.00	45.00	63,928.56	166.3	1,441.02	1,902.73	3,108.52

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
540.14	596.79	7,713.70	690.55	7,023.15	7,155.87	104.24	....
....	....	28.48	....	28.48			
3,129.55	3,270.99	40,823.19	3,408.30	37,414.89	37,255.70	....	393.56
....	....	234.37	....	234.37			
2,252.24	2,452.36	34,726.95	2,873.15	31,853.80	31,231.18	....	704.11
....	....	81.49	....	81.49			
49,470.11	64,147.08	856,469.20	98,234.85	758,234.35	757,905.02	....	7,509.92
....	....	7,180.59	....	7,180.59			
2,701.67	2,934.27	41,172.97	3,465.00	37,707.97	29,374.36	....	8,333.61
767.50	877.96	12,144.29	1,132.60	11,011.69	11,466.99	278.35	....
....	....	176.95	....	176.95			
1,390.91	1,694.69	22,569.54	2,376.50	20,193.04	20,900.40	618.14	....
....	....	89.22	....	89.22			
333.66	367.77	5,364.38	445.90	4,918.48	4,832.79	....	85.69
241.56	254.75	3,527.56	289.10	3,238.46	3,386.21	147.75	....
578.41	658.74	9,964.71	774.20	9,190.51	9,763.12	543.53	....
....	....	29.08	....	29.08			
332.25	325.40	4,358.36	299.60	4,058.76	3,960.22	....	103.28
....	....	4.74	....	4.74			
3,427.03	5,139.63	74,383.03	9,503.20	64,879.83	64,241.41	....	719.66
....	....	81.24	....	81.24			
1,393.33	1,544.91	21,925.74	1,897.35	20,028.39	19,089.60	....	1,119.83
....	....	181.04	....	181.04			
787.16	853.38	11,431.55	991.90	10,439.65	10,217.50	....	251.62
....	....	29.47	....	29.47			
3,298.60	4,411.60	60,111.39	6,934.90	53,176.49	53,640.81	....	195.89
....	....	660.21	....	660.21			
1,000.38	1,142.64	15,701.88	1,452.15	14,249.73	14,177.53	....	195.84
....	....	123.64	....	123.64			
237.57	210.71	2,879.78	144.90	2,734.88	2,562.95	....	171.93
229.86	249.51	3,797.82	294.35	3,503.47	3,641.02	108.39	....
....	....	29.16	....	29.16			
194.16	181.53	2,405.35	147.00	2,258.35	2,308.89	50.54	....
1,201.68	1,308.98	17,102.88	1,556.45	15,546.43	16,031.81	439.93	....
....	....	45.45	....	45.45			
9,556.14	11,593.48	152,658.40	16,163.00	136,495.40	142,537.58	5,841.19	....
....	....	200.99	....	200.99			
8,600.00	14,314.55	211,070.96	29,217.30	181,853.66	163,448.92	....	18,404.74
682.26	955.69	15,051.88	1,682.80	13,369.08	13,349.55	....	66.80
....	....	47.27	....	47.27			
830.80	905.91	12,097.78	1,080.80	11,016.98	10,835.51	....	220.71
....	....	39.24	....	39.24			
616.25	613.22	7,681.74	582.05	7,099.69	7,678.52	578.83	....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Otterville	43.00	45.00	29,556.65	74.4	644.69	1,168.30	1,448.44
Water heater load	......	......	....	0.2	....	*9.62	....
Palmerston	40.00	40.00	142,824.08	426.0	3,691.38	5,913.61	7,066.50
Paris	28.00	28.00	297,845.33	1,141.4	9,890.46	7,543.94	15,034.92
Water heater load	......	......	....	6.5	....	*190.13	....
Parkhill	62.00	62.00	66,838.16	123.6	1,071.02	2,503.14	3,210.62
Petrolia	40.00	40.00	294,973.29	841.4	7,290.91	8,812.17	14,516.75
Water heater load	......	......	....	1.7	....	*65.35	....
Plattsville	62.00	55.00	25,549.83	58.2	504.31	1,032.45	1,235.66
Point Edward	40.00	40.00	181,434.32	598.5	5,186.12	7,474.57	9,113.60
Water heater load	......	......	....	0.3	....	*11.46	....
Port Colborne	28 00	29.00	326,027.87	1,236.3	10,712.79	6,882.69	16,591.23
Water heater load	......	......	....	1.8	....	*51.43	....
Port Credit	32.00	33.00	146,493.51	509.1	4,411.45	5,391.31	7,403.53
Water heater load	......	......	....	8.1	....	*285.77	....
Port Dalhousie	30.00	30.00	125,066.91	478.6	4,147.17	4,034.79	6,348.79
Water heater load	......	......	....	2.5	....	*77.96	....
Port Dover	40.00	40.00	103,652.03	308.0	2,668.88	2,677.87	5,172.47
Water heater load	......	......	....	0.4	....	*14.76	....
Port Rowan	70.00	62.00	34,239.84	64.8	561.51	1,212.29	1,660.56
Port Stanley	40.00	40.00	117,916.25	354.9	3,075.28	3,691.39	5,841.61
Water heater load	......	......	....	2.1	....	*80.11	....
Preston	27.00	27.00	590,103.45	2,317.5	20,081.61	14,367.80	29,674.03
Water heater load	......	......	....	1.7	....	*48.12	....
Princeton	55.00	50.00	41,708.06	108.5	940.17	1,689.74	2,062.55
Queenston	29.00	29.00	19,215.98	80.5	697.55	598.73	983.37
Richmond Hill	38.00	36.00	87,579.54	285.9	2,477.38	1,570.56	4,419.89
Water heater load	......	......	....	2.8	....	*87.83	....
Ridgetown	38.00	38.00	138,133.11	416.9	3,612.52	4,687.34	6,856.71
Water heater load	......	......	....	3.0	....	*116.71	....
Riverside	33.00	33.00	365,935.70	1,109.9	9,617.52	7,745.21	18,306.73
Water heater load	......	......	....	13.6	....	*470.72	....
Rockwood	45.00	42.00	33,812.94	90.6	785.07	1,077.30	1,657.39
Rodney	45.00	45.00	51,045.63	126.0	1,091.82	2,049.76	2,506.29
Water heater load	......	......	....	0.1	....	*4.93	....
St. Catharines	21.50	23.00	1,677,014.61	7,787.9	67,483.73	35,020.25	87,042.16
Water heater load	......	......	....	7.8	....	*187.36	....
St. Clair Beach	38.00	38.00	26,701.07	73.8	639.49	786.90	1,322.23
Water heater load	......	......	....	0.1	....	*4.05	....
St. George	40.00	42.00	46,499.31	139.3	1,207.06	1,844.40	2,308.17
St. Jacobs	32.00	32.00	44,483.51	150.2	1,301.51	1,550.46	2,228.10
Water heater load	......	......	....	0.6	....	*21.31	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c	$ c.	$ c.
294.31	284.35	3,840.09	260.40	3,579.69	3,421 04	....	168 27
....	....	9.62	....	9.62			
1,273.91	1,346.44	19,291.84	1,491.00	17,800.84	17,470.53	....	330 31
2,187.44	2,724.65	37,381.41	3,994.90	33,386.51	33,035.85	....	540.79
....	....	190.13	....	190.13			
753.65	658.62	8,197.05	432.60	7,764.45	7,851.52	87 07	....
2,690.79	2,802.76	36,113.38	2,944.90	33,168.48	35,558.87	2,325 04	....
....	....	65.35	....	65.35			
266.98	248.05	3,287.45	203.70	3,083.75	3,342.15	258.40	....
1,488.24	1,694.76	24,957.29	2,094.75	22,862.54	24,500.75	1,626.75	....
....	....	11.46	....	11.46			
2,478.68	2,987.48	39,652.87	4,327.05	35,325.82	36,635.66	1,258.41	....
....	....	51.43	....	51.43			
1,177.55	1,358.93	19,742.77	1,781.85	17,960.92	17,418.80	....	827.89
....	....	285.77	....	285.77			
932.22	1,136.30	16,599.27	1,675.10	14,924.17	14,812.26	....	189.87
....	....	77.96	....	77.96			
939.88	980.66	12,439.76	1,078.00	11,361.76	12,651.82	1,275.30	....
....	....	14.76	....	14.76			
384.23	337.23	4,155.82	226.80	3,929.02	4,223.02	294.00	....
1,057.82	1,114.59	14,780.69	1,242.15	13,538.54	14,639.11	1,020.46	....
....	....	80.11	....	80.11			
4,211.53	5,374.28	73,709.25	8,111.25	65,598.00	64,424.94	....	1,221.18
....	....	48.12	....	48.12			
408.87	400.05	5,501.38	379.75	5,121.63	5,642.45	520.82	....
133.20	173.33	2,586.18	281.75	2,304.43	2,393.63	89.20	....
682.53	818.35	9,968.71	1,000.65	8,968.06	10,774.90	1,719.01	....
....	....	87.83	....	87.83			
1,217.79	1,303.77	17,678.13	1,459.15	16,218.98	16,377.65	41.96	....
....	....	116.71	....	116.71			
3,176.57	3,454.10	42,300.13	3,884.65	38,415.48	38,154.00	....	732.20
....	....	470.72	....	470.72			
326.39	323.35	4,169.50	317.10	3,852.40	3,955.87	103.47	....
513.28	492.39	6,653.54	441.00	6,212.54	5,829.12	....	388.35
....	....	4.93	....	4.93			
9,952.14	14,827.83	214,326.11	27,257.65	187,068.46	182,199.37	....	5,056.45
....	....	187.36	....	187.36			
246.75	254.61	3,249.98	258.30	2,991.68	2,886.69	....	109.04
....	....	4.05	....	4.05			
419.20	439.41	6,218.24	487.55	5,730.69	5,946.36	215.67	....
366.12	414.21	5,860.40	525.70	5,334.70	4,959.98	....	396.03
....	....	21.31	....	21.31			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
St. Marys	34.00	34.00	381,531.43	1,287.9	11,159.91	14,714.42	19,048.75
Water heater load				1.2		*43.81	
St. Thomas	28.00	28.00	1,400,461.44	5,477.5	47,463.65	33,649.95	71,202.95
Water heater load				79.4		*2,260.84	
Sandwich	32.00	32.00	871,576.59	2,795.5	24,223.29	17,556.07	43,669.04
Water heater load				23.0		*749.43	
Sarnia	34.00	34.00	2,180,312.41	7,106.4	61,578.40	53,006.87	109,277.50
Water heater load				14.6		*484.50	
Scarboro twp.	32.00	32.00	778,069.11	2,609.8	22,614.45	15,956.34	39,302.60
Water heater load				22.5		*638.37	
Seaforth	35.00	35.00	141,261.98	447.4	3,876.81	4,629.84	6,932.30
Simcoe	31.00	31.00	401,859.70	1,457.0	12,625.20	9,399.93	20,434.97
Water heater load				3.2		*97.05	
Springfield	48.00	48.00	32,461.64	74.7	647.29	1,147.86	1,568.02
Water heater load				0.2		*10.03	
Stamford twp.	21.00	21.00	323,184.74	1,640.4	14,214.40	6,851.89	17,050.66
Stouffville	47.00	46.00	66,998.67	177.2	1,535.47	2,659.25	3,312.19
Water heater load				0.4		*18.38	
Stratford	30.00	30.00	1,771,628.35	6,570.9	56,938.18	47,126.61	89,167.37
Water heater load				29.9		*908.42	
Strathroy	34.00	34.00	259,714.56	886.1	7,678.24	6,659.11	13,015.23
Water heater load				3.3		*107.20	
Sutton	60.00	55.00	75,446.90	166.6	1,443.62	2,942.92	3,693.38
Tavistock	36.00	37.00	147,072.54	468.1	4,056.19	4,646.14	7,322.64
Tecumseh	37.00	37.00	99,154.83	281.8	2,441.85	2,617.52	4,921.60
Water heater load				2.4		*92.30	
Thamesford	40.00	40.00	50,370.02	151.0	1,308.45	2,072.47	2,491.05
Water heater load				0.3		*12.46	
Thamesville	40.00	42.00	51,504.85	158.5	1,373.43	2,090.76	2,554.60
Water heater load				0.1		*4.04	
Thedford	72.00	72.00	39,165.84	71.0	615.23	1,634.08	1,884.65
Thorndale	65.00	65.00	21,828.02	42.3	366.54	1,041.78	1,039.47
Thorold	25.00	25.00	406,622.06	1,786.1	15,476.92	9,193.55	21,151.01
Water heater load				2.0		*51.32	
Tilbury	38.00	38.00	122,347.31	364.6	3,159.33	4,213.01	6,032.63
Water heater load				0.5		*19.71	
Tillsonburg	33.00	33.00	245,130.88	803.8	6,965.09	6,515.49	12,217.02
Water heater load				1.7		*57.62	
Toronto	26.10	26.10	62,399,625.24	243,637.2	2,111,165.76	1,074,540.53	3,177,443.27
Water heater load				491.7		*13,072.83	
Toronto twp.	32.00	32.00	429,947.25	1,553.1	13,457.93	12,364.36	21,873.62
Water heater load				14.8		*449.57	
Walkerville	28.00	28.00	1,958,828.80	6,937.1	60,111.40	37,531.72	98,584.12
Water heater load				53.2		*1,572.22	

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3,052.66	3,552.34	51,528.08	4,507.65	47,020.43	44,964.58	....	2,099.66
....	....	43.81	....	43.81			
10,034.36	12,785.46	175,136.37	19,171.25	155,965.12	159,817.15	1,591.19	....
....	....	2,260.84	....	2,260.84			
7,250.61	8,173.20	100,872.21	9,784.25	91,087.96	92,811.38	973.99	....
....	....	749.43	....	749.43			
18,061.22	20,396.99	262,320.98	24,872.40	237,448.58	248,806.30	10,873.22	....
....	....	484.50	....	484.50			
5,912.34	7,246.86	91,032.59	9,134.30	81,898.29	86,602.88	4,066.22	....
....	....	638.37	....	638.37			
1,206.86	1,322.07	17,967.88	1,565.90	16,401.98	16,085.54	....	316.44
3,119.08	3,707.44	49,286.62	5,099.50	44,187.12	46,479.50	2,195.33	....
....	....	97.05	....	97.05			
333.45	312.38	4,009.00	261.45	3,747.55	3,693.79	....	63.79
....	....	10.03	....	10.03			
1,688.47	2,811.89	42,617.31	5,741.40	36,875.91	35,400.11	....	1,475.80
613.81	641.14	8,761.86	620.20	8,141.66	8,409.03	248.99	....
....	....	18.38	....	18.38			
13,178.90	16,225.87	222,636.93	22,998.15	199,638.78	203,303.57	2,756.37	....
....	....	908.42	....	908.42			
2,117.31	2,415.14	31,885.03	3,101.35	28,783.68	31,023.05	2,132.17	....
....	....	107.20	....	107.20			
763.89	733.90	9,577.71	583.10	8,994.61	9,499.60	504.99	....
1,252.16	1,375.87	18,653.00	1,638.35	17,014.65	17,680.64	665.99	....
900.19	942.75	11,823.91	986.30	10,837.61	10,801.42	....	128.49
....	....	92.30	....	92.30		....	....
452.35	475.83	6,800.15	528.50	6,271.65	6,208.10	....	76.01
....	....	12.46	....	12.46			
447.76	484.98	6,951.53	554.75	6,396.78	6,758.77	357.95	....
....	....	4.04	....	4.04			
439.94	385.95	4,959.85	248.50	4,711.35	5,208.48	497.13	....
242.53	214.58	2,904.90	148.05	2,756.85	2,813.89	57.04	....
2,620.69	3,638.10	52,080.27	6,251.35	45,828.92	45,918.60	38.36	....
....	....	51.32	....	51.32			
1,086.55	1,155.34	15,646.86	1,276.10	14,370.76	14,226.27	....	164.20
....	....	19.71	....	19.71			
2,067.60	2,291.42	30,056.62	2,813.30	27,243.32	27,331.67	30.73	....
....	....	57.62	....	57.62			
398,390.06	568,732.02	7,330,271.64	852,730.20	6,477,541.44	6,371,763.17	....	118,851.10
....	....	13,072.83	....	13,072.83			
3,325.46	3,967.02	54,988.39	5,435.85	49,552.54	51,474.89	1,472.78	....
....	....	449.57	....	449.57			
14,930.93	18,132.74	229,290.91	24,279.85	205,011.06	201,601.30	....	4,981.98
....	....	1,572.22	....	1,572.22			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Wallaceburg	36.00	36.00	536,888.73	1,599.1	13,856.53	15,236.82	26,540.09
Water heater load				1.5		*56.18	
Wardsville	60.00	62.00	15,388.76	31.4	272.09	712.64	745.50
Waterdown	34.00	32.00	59,051.71	200.3	1,735.64	1,517.32	2,939.41
Waterford	32.00	32.00	108,813.44	376.4	3,261.58	2,570.68	5,478.83
Water heater load				0.6		*18.95	
Waterloo	27.00	27.00	779,764.29	2,972.8	25,759.92	18,102.97	39,525.10
Water heater load				19.2		*554.48	
Watford	55.00	55.00	81,608.70	185.4	1,606.53	2,848.75	3,973.75
Water heater load				0.4		*20.31	
Welland	23.00	24.00	805,460.13	3,578.5	31,008.43	15,801.84	41,559.71
Water heater load				18.8		*463.42	
Wellesley	45.00	50.00	42,384.44	104.3	903.78	1,775.05	2,051.10
West Lorne	40.00	40.00	33,606.54	99.7	863.92	1,309.62	1,591.62
Weston	28.00	27.00	624,411.23	2,480.3	21,492.30	13,060.95	31,721.02
Water heater load				24.0		*654.41	
Wheatley	51.00	50.00	58,482.83	120.3	1,042.42	1,755.51	2,846.46
Water heater load				0.7		*37.37	
Windsor	28.00	28.00	5,614,408.38	19,926.6	172,668.05	105,468.55	282,389.10
Water heater load				148.7		*4,368.81	
Woodbridge	35.00	35.00	90,450.77	292.9	2,538.04	2,415.68	4,513.01
Water heater load				0.7		*24.03	
Woodstock	27.00	27.00	1,197,047.85	4,543.0	39,366.02	26,888.82	60,715.17
Water heater load				21.8		*628.12	
Wyoming	54.00	56.00	28,007.53	61.2	530.31	978.50	1,358.50
York East twp.	32.00	32.00	1,255,879.25	4,883.1	42,313.05	48,399.06	64,534.53
Water heater load				14.0		*451.97	
York North twp.	32.00	32.00	718,868.37	2,490.9	21,584.16	19,312.73	36,609.90
Water heater load				29.9		*862.06	
Zurich	62.00	62.00	37,688.10	70.0	606.56	1,622.06	1,799.67
Toronto Transportation Comm.			93,886.13	335.8	2,909.78	3,023.24	3,952.48
Sandwich, Windsor and Amherstburg Railway Co.			753,852.03	2,617.5	22,681.19	14,376.72	38,109.48
Windsor, Essex and Lake Shore Railway Association			5,306.50			106.18	182.99

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
4,779.30	5,076.84	65,489.58	5,596.85	59,892.73	59,237.01	....	711.90
....	....	56.18	....	56.18			
166.00	150.35	2,046.58	109.90	1,936.68	1,979.85	43.17	....
488.39	549.40	7,230.16	701.05	6,529.11	6,655.15	126.04	....
880.73	1,010.39	13,202.21	1,317.40	11,884.81	12,390.47	486.71	....
....	....	18.95	....	18.95			
5,736.44	7,138.18	96,262.61	10,404.80	85,857.81	72,215.25	....	14,197 04
....	....	554.48	....	554.48			
840.96	791.71	10,061.70	648.90	9,412.80	10,470.22	1,037.11	....
....	....	20.31	....	20.31			
5,174.61	7,191.72	100,736.31	12,524.75	88,211.56	88,102.59	....	572.39
....	....	463.42	....	463.42			
426.67	408.68	5,565.28	365 05	5,200.23	5,249.57	49.34	....
304.38	318.18	4,387.72	348.95	4,038.77	4,089.58	50.81	....
4,355.10	5,681.01	76,310.38	8,681.05	67,629.33	69,926.11	1,642.37	....
....	....	654.41	....	654.41			
626.61	572.56	6,843.56	421.05	6,422.51	6,239.92	....	219.96
....	....	37.37	....	37.37			
42,704.62	51,956.58	655,186.90	69,743.10	585,443.80	581,797.23	....	8,015.38
....	....	4,368.81	....	4,368.81			
764.75	846.70	11,078.18	1,025.15	10,053.03	10,552.06	475.00	....
....	....	24.03	....	24.03			
8,859.81	10,966.95	146,796.77	15,900.50	130,896.27	126,856.89	....	4,667.50
....	....	628.12	....	628.12			
294.00	272.86	3,434.17	214.20	3,219.97	3,489.44	269.47	....
8,063.15	11,453.87	174,763.66	17,090.85	157,672.81	160,477.87	2,353.09	....
....	....	451.97	....	451.97			
5,325.23	6,664.05	89,496.07	8,718.15	80,777.92	82,884.64	1,244.66	....
....	....	862.06	....	862.06			
424.89	371.64	4,824.82	245.00	4,579.82	4,452.78	....	127.04
735.59	867.48	11,488.57	1,175.30	10,313.27	10,672.98	359.71	....
5,855.03	6,997.19	88,019.61	9,161.25	78,858.36	78,858.36	....	....
79.56	55.85	424.58	....	424.58	424.58	....	....

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Acton R.P.D.—Erin, Esquesing and Nassagaweya twps.	3,104.79	10.0	86.65	81.09	156.29
Ailsa Craig R.P.D.—Lobo, McGillivray and Williams E. twps.	2,210.48	5.6	48.52	70.68	109.76
Alvinston R.P.D.—Brooke twp.	2,618.61	3.2	27.73	82 53	125.04
Amherstburg R.P.D.—Anderdon, Colchester N., Colchester S. and Malden twps.	181,730.18	525.8	4,556.18	4,264.16	9,029.26
Water heater load		1.4		*49.38	
Aylmer R.P.D.—Bayham, Dereham, Dorchester N., Dorchester S., Malahide and Yarmouth twps.	77,966.32	240.0	2,079.64	2,048.85	3,882.98
Water heater load		0.2		*7.16	
Ayr R.P.D.—Blenheim, Dumfries N. and Dumfries S. twps.	12,056.11	42.5	368.28	365.40	611.57
Baden R.P.D.—Blandford, Blenheim, Easthope N., Easthope S., Waterloo, Wellesley, Wilmot and Zorra E. twps.	101,853.72	345.7	2,995.56	2,560.46	5,149.91
Water heater load		0.5		*16.61	
Beamsville R.P.D.—Caistor, Clinton, Gainsborough, Grimsby N., Grimsby S., Louth, Pelham and Wainfleet twps.	303,243.58	1,058.3	9,170.38	9,265.10	15,312.80
Water heater load		2.7		*90.36	
Belle River R.P.D.—Maidstone and Rochester twps.	76,058.56	231.0	2,001.68	2,079.52	3,785.01
Water heater load		0.3		*11.00	
Blenheim R.P.D.—Raleigh and Harwich twps.	36,427.54	108.0	935.84	934.53	1,807.62
Water heater load		0.2		*7.35	
Bond Lake R.P.D.—King, Markham, Vaughan, Whitchurch and York N. twps.	274,590.50	823.9	7,139.26	4,822.34	13,748.87
Water heater load		1.4		*52.29	
Bothwell R.P.D.—Aldborough, Ekfrid, Mosa, Orford and Zone twps.	36,758.70	94.8	821.46	1,158.35	1,802.30
Brampton R.P.D.—Chinguacousy and Toronto twps.	32,509.88	119.5	1,035.49	1,448.57	1,652.62
Water heater load		0.1		*3 57	
Brant R.P.D.—Blenheim, Brantford, Burford, Dumfries S., Oakland and Onondaga twps.	117,042.00	437.6	3,791.89	3,884.31	5,963.95
Water heater load		1.1		*35.85	
Brigden R.P.D.—Moore and Sombra twps.	18,577.48	34.9	302.42	507.01	896.40

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM N.—*COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges						Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund	Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
26.59	29.07	379.69	35.00	344.69	344.69	see page	185
21.88	21.22	272.06	19.60	252.46	252.46	"	"
32.69	26.42	294.41	11.20	283.21	283.21	"	"
1,630.36	1,724.45	21,204.41	1,840.30	19,364.11	19,413.49	"	"
....	....	49.38	....	49.38			
686.82	733.70	9,431.99	840.00	8,591.99	8,599.15	"	"
....	....	7.16	....	7.16			
95.90	111.61	1,552.76	148.75	1,404.01	1,404.01	"	"
834.73	947.76	12,488.42	1,209.95	11,278.47	11,295.08	"	"
....	....	16.61	....	16.61			
2,482.64	2,808.43	39,039.35	3,704.05	35,335.30	35,425.66	"	"
....	....	90.36	....	90.36			
659.53	717.77	9,243.51	808.50	8,435.01	8,446.01	"	"
....	....	11.00	....	11.00			
325.10	344.51	4,347.60	378.00	3,969.60	3,976.95	"	"
....	....	7.35	....	7.35			
2,299.97	2,592.08	30,602.52	2,883.65	27,718.87	27,771.16	"	"
....	....	52.29	....	52.29			
355.70	351.74	4,489.55	331.80	4,157.75	4,157.75	"	"
248.18	299.17	4,684.03	418.25	4,265.78	4,269.35	"	"
....	....	3.57	....	3.57			
881.40	1,074.61	15,596.16	1,531.60	14,064.56	14,100.41	"	"
....	....	35.85	....	35.85			
206.79	183.04	2,095.66	122.15	1,973.51	1,973.51	"	"

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Burford R.P.D.—Brantford, Burford, Oakland, Townsend and Windham twps.	46,086.19	154.3	1,337.04	1,180.55	2,333.79
Caledonia R.P.D.—Ancaster, Barton, Binbrook, Caistor, Glandford, Grimsby S., Oneida, Onondaga and Seneca twps.	79,953.94	274.2	2,375.99	2,030.44	4,044.07
Water heater load	....	0.8	....	*26.41	....
Chatham R.P.D. — Chatham, Dover E., Harwich and Raleigh twps.	114,530 24	403.4	3,495.54	2,763.43	5,776.23
Water heater load	....	2.4	....	*74.80	....
Chippawa R.P.D.—Bertie, Crowland and Willoughby twps.	21,842 34	95.5	827.52	458.84	1,111.51
Water heater load	....	0.1	....	*2.52	....
Clinton R.P.D.—Goderich, Hay, Hullett, Stanley and Tuckersmith twps.	42,317.15	116.2	1,006.90	1,504.21	2,098.24
Delaware R P.D.—Caradoc, Delaware, Ekfrid, Lobo, London, Southwold and Westminster twps.	80,489.11	277.8	2,407.20	1,889.76	4,037.79
Water heater load	....	2.2	....	*69.37	....
Dorchester R P.D.—DorchesterN., Dorcheste S., London, Nissouri E., Nissouri W., Oxford N., Westminster and Yarmouth twps.	90,019.08	290.0	2,512.91	2,512.71	4,474.21
Water heater load	....	0.1	....	*3.39	....
Dresden R.P.D.—Camden, Chatham Gore and Dawn twps.	13,270.82	35.9	311.08	435.46	661.61
Water heater load	....	0.4	....	*17.13	....
Drumbo R.P.D.—Blandford, Blenheim and Burford twps.	30,099.88	75.6	655.09	1,092.08	1,469.23
Dundas R.P.D.—Ancaster, Beverly, Flamboro W., Flamboro E., Glanford and Nelson twps.	139,904.37	538.5	4,666.22	2,339.99	7,137.19
Water heater load	....	0.7	....	*18.75	....
Dunnville R.P.D.— Canborough, Dunn and Moulton twps.	12,202.61	42.0	363.94	208.10	622 52
Dutton R.P.D.—Aldborough and Dunwich twps.	38,951.00	118.4	1,025.97	1,320.52	1,957 84
Water heater load	....	0.1	....	*3.64	....
Elmira R.P.D.—Peel, Pilkington and Woolwich twps.	25,736.54	79.9	692.35	572.51	1,298.99
Water heater load	....	0.2	....	*6.89	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
383.25	429.78	5,664.41	540.05	5,124.36	5,124.36	see page	185
653.55	741.57	9,845.62	959.70	8,885.92	8,912.33	"	"
		26.41		26.41			
890.38	1,059.41	13,984.99	1,411.90	12,573.09	12,647.89	"	"
		74.80		74.80			
143.70	195.59	2,737.16	334.25	2,402.91	2,405.43	"	"
		2.52		2.52			
397.87	402.64	5,409.86	406.70	5,003.16	5,003.16	"	"
646.98	745.37	9,727.10	972.30	8,754.80	8,824.17	"	"
		69.37		69.37			
769.87	844.42	11,114.12	1,015.00	10,099.12	10,102.51	"	"
		3.39		3.39			
125.55	126.79	1,660.49	125.65	1,534.84	1,551.97	see page	187
		17.13		17.13			
300.45	289.68	3,806.53	264.60	3,541.93	3,541.93	"	"
1,030.96	1,279.03	16,453.39	1,884.75	14,568.64	14,587.39	"	"
		18.75		18.75			
101.75	113.35	1,409.66	147.00	1,262.66	1,262.66	"	"
347.08	367.75	5,019.16	414.40	4,604.76	4,608.40	"	"
		3.64		3.64			
225.85	242.17	3,031.87	279.65	2,752.22	2,759.11	"	"
		6.89		6.89			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each
by the Commission; the amount appropriated from the contingency
cost; the amount received by the Commission from each
charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Elora R.P.D.—Garafraxa W., Nichol, Peel and Pilkington twps.	32,226.45	95.0	823.20	837.64	1,602.43
Water heater load	....	0.1	....	*3.63	....
Essex R.P.D.—Colchester N., Gosfield N., Gosfield S., Maidstone, Mersea, Rochester and Sandwich S. twps.	59,990.02	181.0	1,568.40	1,266.55	2,984.28
Water heater load	....	0.1	....	*3.47	....
Exeter R.P.D.—Biddulph, Bosanquet, Hay, Hibbert, Stephen, Tuckersmith and Usborne twps.	103,284.53	266.4	2,308.41	3,204.10	5,098.93
Water heater load	....	0.2	....	*8.72	....
Forest R.P.D.—Adelaide, Bosanquet, Plympton, Warwick and Williams W. twps.	14,085.03	32.5	281.61	449.21	691.84
Galt R.P.D.—Beverly, Dumfries N. and Dumfries S. twps.	45,794.00	173.5	1,503.41	2,138.64	2,337.00
Georgetown R.P.D.—Chinguacousy, Erin and Esquesing twps.	38,627.01	114.7	993.90	964.15	1,929.60
Water heater load	....	0.3	....	*10.99	....
Goderich R.P.D.—Ashfield, Colborne, Goderich and Wawanosh W. twps.	38,163.81	79.1	685.42	1,120.68	1,860.08
Grantham R.P.D.—Grantham and Niagara twps.	152,577.90	633.2	5,486.81	4,030.59	7,862.13
Water heater load	....	1.9	....	*50.85	....
Guelph R.P.D.—Eramosa, Guelph, Nassagaweya and Puslinch twps.	110,130.92	376.7	3,264.19	2,582.65	5,595.00
Water heater load	....	2.5	....	*82.34	....
Haldimand R.P.D.—Cayuga N., Oneida, Rainham, Seneca and Walpole twps.	71,822.50	188.9	1,636.87	2,562.94	3,535.78
Harriston R.P.D.—Howick and Minto twps.	6,937.15	16.9	146.44	297.74	342.15
Harrow R.P.D.—Colchester N., Colchester S., Gosfield S. and Malden twps.	122,159.62	341.5	2,959.17	2,980.49	6,088.41
Water heater load	....	1.9	....	*73.46	....
Ingersoll R.P.D.—Dereham, Dorchester N., Nissouri E., Oxford N., Oxford W., Zorra E. and Zorra W. twps.	103,967.57	323.5	2,803.19	3,092.39	5,200.00
Water heater load	....	1.0	....	*31.82	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it
reserve of the system and proportionately applied in reduction of such
Municipality; and the amount remaining to be credited or
supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
293.66	305.05	3,861.98 3.63	332.50	3,529.48 3.63	3,533.11	see page	187
522.75	566.61	6,908.59 3.47	633.50	6,275.09 3.47	6,278.56	"	"
1,014.69	991.57	12,617.70 8.72	932.40	11,685.30 8.72	11,694.02	"	"
144.25	136.54	1,703.45	113.75	1,589.70	1,589.70	"	"
339.54	419.36	6,737.95	607.25	6,130.70	6,130.70	"	"
350.40	365.28	4,603.33 10.99	401.45	4,201.88 10.99	4,212.87	"	"
411.21	372.63	4,450.02	276.85	4,173.17	4,173.17	"	"
1,060.01	1,378.22	19,817.76 50.85	2,216.20	17,601.56 50.85	17,652.41	"	"
900.23	1,023.76	13,365.83 82.34	1,318.45	12,047.38 82.34	12,129.72	"	"
690.80	679.72	9,106.11	661.15	8,444.96	8,444.96	"	"
69.59	66.80	922.72	59.15	863.57	863.57	"	"
1,120.73	1,163.40	14,312.20 73.46	1,195.25	13,116.95 73.46	13,190.41	"	"
907.16	975.18	12,977.92 31.82	1,132.25	11,845.67 31.82	11,877.49	"	"

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Jordan R.P.D.—Grantham, Louth, Pelham and Thorold twps......	71,232.87	299.9	2,598.70	1,447.62	3,686.50
Water heater load	....	1.1	....	*28.65	....
Keswick R.P.D.—Georgina, Gwillimbury N. and Gwillimbury E. twps..........................	156,132.01	405.3	3,512.00	5,489.59	7,737.29
Water heater load	....	0.1	....	*4.22	....
Kingsville R.P.D.—Gosfield N., Gosfield S., Mersea and Romney twps..........................	186,802.68	527.4	4,570.03	4,156.67	9,224.31
Water heater load	....	2.6	....	*84.55	....
Listowel R.P.D.— Elma, Grey, Maryborough, Mornington, Peel, Wallace and Wellesley twps......	40,298.27	126.4	1,095.28	1,421.62	2,019.93
London R.P.D.—Delaware, Lobo, London, Nissouri W. and Westminster twps..................	403,592.61	1,394.0	12,079.29	9,234.49	20,384.83
Water heater load	....	10.2	....	*274.40	....
Lucan R.P.D.—Biddulph, London, McGillivray and Stephen twps...	17,375.23	56.2	486.99	526.26	864.32
Water heater load	....	0.2	....	*7.11	....
Lynden R.P.D.—Ancaster, Beverly, Brantford and Dumfries S. twps..........................	50,814.70	159.2	1,379.50	1,590.52	2,529.42
Water heater load	....	0.2	....	*7.64	....
Markham R.P.D.—Markham, Pickering, Scarboro, Uxbridge and Whitchurch twps...............	123,874.94	393.7	3,411.49	3,251.39	6,224.77
Water heater load	....	0.2	....	*7.14	....
Merlin R.P.D.—Raleigh, Romney and Tilbury E. twps...........	62,717.77	159.0	1,377.77	2,210.67	3,111.42
Milton R.P.D.—Esquesing, Nassagaweya, Nelson and Trafalgar twps..........................	45,477.32	147.8	1,280.72	1,963.19	2,291.91
Water heater load	....	0.1	....	*3.94	....
Milverton R.P.D.—Ellice, Elma, Mornington and Wellesley twps..	21,126.93	65.8	570.17	613.19	1,058.43
Mitchell R.P.D.—Downie, Ellice, Elma, Fullarton, Hibbert, Logan and McKillop twps............	54,581.38	169.2	1,466.15	1,399.70	2,726.50
Water heater load	....	0.3	....	*10.73	....
Newmarket R.P.D.— Georgina, Gwillimbury E., King, Scott, Uxbridge and Whitchurch twps....	70,499.35	215.7	1,869.08	2,012.75	3,521.46
Water heater load	....	0.2	....	*6.83	....
Niagara R.P.D.—Niagara and Stamford twps.................	77,552.95	346.1	2,999.02	2,077.39	3,974.55
Water heater load	....	2.0	....	*52.30	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
483.58	641.42	8,857.82 28.65	1,049.65	7,808.17 28.65	7,836.82	see page	187
1,447.19	1,496.78	19,682.85 4.22	1,418.55	18,264.30 4.22	18,268.52	"	"
1,703.20	1,777.33	21,431.54 84.55	1,845.90	19,585.64 84.55	19,670.19	"	"
346.79	377.61	5,261.23	442.40	4,818.83	4,818.83	"	"
3,251.68	3,743.82	48,694.11 274.40	4,879.00	43,815.11 274.40	44,089.51	see page	189
146.86	162.01	2,186.44 7.11	196.70	1,989.74 7.11	1,996.85	"	"
444.87	476.47	6,420.78 7.64	557.20	5,863.58 7.64	5,871.22	"	"
989.08	1,161.43	15,038.16 7.14	1,377.95	13,660.21 7.14	13,667.35	"	"
617.15	604.43	7,921.44	556.50	7,364.94	7,364.94	"	"
385.96	425.48	6,347.26 3.94	517.30	5,829.96 3.94	5,833.90	"	"
182.76	198.13	2,622.68	230.30	2,392.38	2,392.38	"	"
473.79	512.19	6,578.33 10.73	592.20	5,986.13 10.73	5,996.86	"	"
580.37	663.33	8,646.99 6.83	754.95	7,892.04 6.83	7,898.87	"	"
496.73	691.88	10,239.57 52.30	1,211.35	9,028.22 52.30	9,080.52	"	"

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Norwich R.P.D.—Burford, Dereham, Middleton, Norwich N., Norwich S., Oxford E. and Windham twps.	76,245.00	241.6	2,093.51	2,001.28	3,781.35
Water heater load	....	0.6	....	*20.88	....
Oil Springs R.P.D. — Brooke, Dawn, Enniskillen and Euphemia twps.	15,976.46	41.6	360.47	464.54	786.05
Palmerston R.P.D.—Arthur, Maryborough, Minto, Peel and Wallace twps.	16,763.38	50.0	433.26	615.21	840.75
Petrolia R.P.D.—Enniskillen, Moore, Plympton and Sarnia twps	8,745.06	25.3	219.23	245.56	434.63
Preston R.P.D.— Dumfries N., Guelph, Puslinch, Waterloo and Woolwich twps.	239,163.10	849.0	7,356.76	5,318.19	12,110.32
Water heater load	....	1.2	....	*33.78	....
Ridgetown R.P.D.—Aldborough, Harwich, Howard, Orford and Rondeau Park twps.	95,655.14	244.9	2,122.11	3,125.96	4,689.57
Water heater load	....	1.1	....	*48.79	....
St. Jacobs R.P.D.—Peel, Waterloo, Wellesley and Woolwich twps.	71,027.26	237.6	2,058.84	1,828.64	3,573.40
Water heater load	....	0.2	....	*6.57	....
St. Marys R.P.D.—Blanshard, Downie, Fullarton, Nissouri E., Nissouri W. and Usborne twps.	65,182.98	185.4	1,606.53	2,155.39	3,242.36
St. Thomas R.P.D.—Dunwich, Southwold, Westminster and Yarmouth twps.	127,738.17	455.2	3,944.40	3,164.90	6,447.38
Water heater load	....	3.2	....	*99.59	....
Saltfleet R.P.D.— Barton, Binbrook, Grimsby N. and Saltfleet twps.	264,433.70	875.3	7,584.65	6,093.66	13,201.52
Water heater load	....	1.3	....	*36.84	....
Sandwich R.P.D.—Anderdon, Colchester N., Maidstone, Sandwich E., Sandwich W. and Sandwich S. twps.	265,738.12	874.4	7,576.86	5,202.50	13,286.18
Water heater load	....	2.4	....	*75.89	....
Sarnia R.P.D.—Moore, Plympton and Sarnia twps.	167,396.36	493.7	4,278.01	4,485.74	8,337.84
Water heater load	....	2.6	....	*96.93	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
660.00	715.79	9,251.93	845.60	8,406.33	8,427.21	see page	189
....	....	20.88	....	20.88			
154.00	153.23	1,918.29	145.60	1,772.69	1,772.69	"	"
149.52	158.04	2,196.78	175.00	2,021.78	2,021.78	"	"
79.05	82.97	1,061.44	88.55	972.89	972.89	"	"
1,886.91	2,211.21	28,883.39	2,971.50	25,911.89	25,945.67	"	"
....	....	33.78	....	33.78			
933.03	918.68	11,789.35	857.15	10,932.20	10,980.99	"	"
....	....	48.79	....	48.79			
589.06	662.17	8,712.11	831.60	7,880.51	7,887.08	"	"
....	....	6.57	....	6.57			
593.47	619.41	8,217.16	648.90	7,568.26	7,568.26	"	"
1,004.21	1,182.08	15,742.97	1,593.20	14,149.77	14,249.36	"	"
....	....	99.59	....	99.59			
2,231.53	2,469.16	31,580.52	3,063.55	28,516.97	28,553.81	"	"
....	....	36.84	....	36.84			
2,158.49	2,479.68	30,703.71	3,060.40	27,643.31	27,719.20	"	"
....	....	75.89	....	75.89			
1,493.63	1,584.73	20,179.95	1,727.95	18,452.00	18,548.93	"	"
....	....	96.93	....	96.93			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Scarboro R.P.D.—Pickering, Scarboro and York N. twps.	99,385.27	300.6	2,604.76	1,677.34	4,982.47
Water heater load	....	1.1	....	*29.82	....
Seaforth R.P.D.—Hibbert, Hullett, McKillop and Tuckersmith twps.	16,950.28	51.7	447.99	518.88	847.97
Simcoe R.P.D.—Charlotteville, Townsend, Walpole, Windham and Woodhouse twps.	57,483.39	202.3	1,752.97	1,839.38	2,917.91
Water heater load	....	2.5	....	*83.65	....
Stamford R.P D.—Stamford and Thorold twps.	37,543.95	159.4	1,381.24	723.64	1,934.38
Stratford R.P.D.—Downie, Easthope N., Easthope S. and Ellice twps.	40,881 40	150.7	1,305.85	1,075.45	2,054.35
Water heater load	....	0.3	....	*9.14	....
Strathroy R.P.D.—Adelaide, Caradoc, Ekfrid, Lobo, Metcalfe and Williams E. twps.	30,824.41	89.2	772.94	1,085.28	1,537.58
Streetsville R.P.D.—Chinguacousy, Esquesing, Toronto and Trafalgar twps.	90,613.06	270.2	2,341.34	3,067.42	4,513.87
Water heater load	....	0.6	....	*23.90	....
Tavistock R.P.D.—Easthope N., Easthope S., Ellice and Zorra E. twps.	44,994.85	143.3	1,241.73	1,297.06	2,246.02
Thamesville R.P.D.—Camden, Chatham, Euphemia, Harwich, Howard, Orford and Zone twps.	31,715.30	97.6	845.72	885.05	1,588.71
Water heater load	....	0.3	....	*10.92	....
Tilbury R.P.D.—Dover W., Mersea, Rochester, Romney, Tilbury E., Tilbury W. and Tilbury N. twps.	53,383.43	158.0	1,369.10	1,566.46	2,672.49
Water heater load	....	0.1	....	*3.82	....
Tillsonburg R.P.D.—Bayham, Dereham, Dorchester S., Houghton, Malahide, Middleton, Norwich N., Norwich S. and Walsingham N. twps.	95,102.09	290.7	2,518.98	2,447.83	4,700.37
Water heater load	....	1.3	....	*46.45	....
Wallaceburg R.P.D.—Chatham, Dover E. and Sombra twps.	61,583.45	179.6	1,556.28	1,872.84	3,042.59
Water load heater	....	0.5	....	*19.57	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
827.51	937.54	11,029.62	1,052.10	9,977.52	10,007.34	see page	189
....	....	29.82	....	29.82			
148.85	159.37	2,123.06	180.95	1,942.11	1,942.11	see page	191
458.38	532.52	7,501.16	708.05	6,793.11	6,876.76	"	"
....	....	83.65	....	83.65			
252.73	337.90	4,629.89	557.90	4,071.99	4,071.99	"	"
306.03	374.77	5,116.45	527.45	4,589.00	4,598.14	"	"
....	....	9.14	....	9.14			
282.79	292.01	3,970.60	312.20	3,658.40	3,658.40	"	"
817.72	856.54	11,596.89	945.70	10,651.19	10,675.09	"	"
....	....	23.90	....	23.90			
382.89	420.90	5,588.60	501.55	5,087.05	5,087.05	"	"
275.71	298.63	3,893.82	341.60	3,552.22	3,563.14	"	"
....	....	10.92	....	10.92			
476.33	504.51	6,588.89	553.00	6,035.89	6,039.71	"	"
....	....	3.82	....	3.82			
842.21	895.02	11,404.41	1,017.45	10,386.96	10,433.41	"	"
....	....	46.45	....	46.45			
556.02	583.70	7,611.43	628.60	6,982.83	7,002.40	"	"
....	....	19.57	....	19.57			

NIAGARA

Statement showing the amount chargeable (upon annual adjustment) to each by the Commission; the amount appropriated from the contingency cost; the amount received by the Commission from each charged to each Municipality in respect of power

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Walsingham R.P.D.—Charlotteville, Houghton, Middleton, Walsingham N., Walsingham S. and Windham twps.	60,798.60	133.0	1,152.47	1,692.29	2,980.25
Water heater load	....	0.5	....	*24.80	....
Walton R.P.D.—Grey, Hullett, McKillop, Morris, Wawanosh E. and Wawanosh W. twps.	35,873.12	85.5	740.87	1,215.98	1,759.75
Water heater load	....	0.1	....	*4.83	....
Waterdown R.P.D.—Flamboro E., Flamboro W. and Nelson twps.	203,660.56	651.4	5,644.51	4,376.74	10,195.13
Water heater load	....	9.5	....	*286.45	....
Waterford R.P.D.—Townsend, and Windham twps.	45,907.50	158.8	1,376.04	1,008.90	2,325.73
Water heater load	....	0.3	....	*9.36	....
Watford R.P.D.—Adelaide, Metcalfe and Warwick twps.	8,749.66	20.8	180.24	273.29	431.75
Welland R.P.D.—Bertie, Crowland, Humberstone, Moulton, Pelham, Thorold, Wainfleet, and Willoughby twps.	262,740.63	1,012.1	8,770.05	7,933.46	13,324.10
Water heater load	....	3.5	....	*99.10	....
Woodbridge R.P.D.—Albion, Chinguacousy, Etobicoke, King, Toronto, Toronto Gore, Vaughan and York N. twps.	165,290.75	525.6	4,554.43	3,631.92	8,256.37
Water heater load	....	1.9	....	*63.68	....
Woodstock R.P.D.—Blandford, Blenheim, Burford, Oxford E., Oxford N., Oxford W., Zorra E. and Zorra W. twps.	137,723.61	479.6	4,155.83	2,868.08	6,929.98
Water heater load	....	1.5	....	*45.85	....
Totals Municipalities	144,023,104.06	552,272.6	4,785,554.05	2,921,649.15	7,314,488.01
Water heater loads	....	1,851.7	....	*52,502.48	....
Totals—Rural Power Districts	7,289,267.28	23,605.2	204,543.91	190,563.18	365,513.99
Water heater loads	....	76.7	....	*2,429.87	....
Totals—Companies	45,468,930.88	197,579.4	1,712,065.60	974,752.47	2,399,216.15
Totals—Local distribution systems	1,406,334.62	4,182.6	36,243.07	100,542.47	72,329.47
Water heater loads	....	19.4	....	*628.72	....
Non-operating capital	102,132.57	....	....	....	....
Grand total	198,289,769.41	779,587.6	6,738,406.63	4,243,068.34	10,151,547.62

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*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *N.—COST OF POWER*

Municipality as the Cost—under Power Commission Act—of Power supplied to it reserve of the system and proportionately applied in reduction of such Municipality; and the amount remaining to be credited or supplied to it in the year ending October 31, 1933

costs and fixed charges		Total cost of power for year	Amount appropriated from contingency reserve and proportionately applied in reduction of such cost	Amounts charged to each municipality in respect of power supplied to it in the year	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality	
Renewals	Sinking fund					Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
646.45	592.35	7,063.81 24.80	465.50	6,598.31 24.80	6,623.11	see page	191
363.79	346.13	4,426.52 4.83	299.25	4,127.27 4.83	4,132.10	"	"
1,762.59	1,909.05	23,888.02 286.45	2,279.90	21,608.12 286.45	21,894.57	"	"
371.57	426.27	5,508.51 9.36	555.80	4,952.71 9.36	4,962.07	"	"
88.49	84.54	1,058.31	72.80	985.51	985.51	"	"
1,981.39	2,401.87	34,410.87 99.10	3,542.35	30,868.52 99.10	30,967.62	"	"
1,417.98	1,551.42	19,412.12 63.68	1,839.60	17,572.52 63.68	17,636.20	"	"
1,105.60	1,277.31	16,336.80 45.85	1,678.60	14,658.20 45.85	14,704.05	"	"
1,003,146.46	1,317,126.56	17,341,964.23 52,502.48	1,932,954.10	15,409,010.13 52,502.48	15,215,450.86	74,541.31	320,603.06
61,478.48	68,199.06	890,298.62 2,429.87	82,618.20	807,680.42 2,429.87	810,110.29		
288,709.67	422,132.40	5,796,876.29		5,796,876.29	3,590,229.96		2,206,646.33†
23,444.26	8,870.62	241,429.89 628.72		241,429.89 628.72	227,670.51		14,388.10†
1,376,778.87	1,816,328.64	24,326,130.10	2,015,572.30	22,310,557.80	19,843,461.62	74,541.31	2,541,637.49

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†Written off to contingency reserve.

NIAGARA SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Acton R.P.D.—Erin, Esquesing and Nassagaweya twps.	14,921.66	7,460.83	7,460.83	344.69
Ailsa Craig R.P.D.—Lobo, McGillivray and Williams E. twps.	9,208.19	4,604.10	4,604.09	252.46
Alvinston R.P.D.—Brooke twp.	5,447.60	2,723.80	2,723.80	283.21
Amherstburg R.P.D.—Anderdon, Colchester N., Colchester S., and Malden twps.	139,175.07	69,502.03	69,673.04	19,413.49
Aylmer R.P.D.—Bayham, Dereham, Dorchester N., Dorchester S., Malahide and Yarmouth twps.	*191,391.87	93,840.30	97,551.57	8,599.15
Ayr R.P.D.—Blenheim, Dumfries N. and Dumfries S. twps.	*41,231.34	20,580.18	20,651.16	1,404.01
Baden R.P.D.—Blandford, Blenheim, Easthope N., Easthope S., Waterloo, Wellesley, Wilmot and Zorra E. twps.	*168,426.20	83,853.79	84,572.41	11,295.08
Beamsville R.P.D.—Caistor, Clinton, Gainsborough, Grimsby N., Grimsby S., Louth, Pelham and Wainfleet twps.	352,966.94	170,410.90	182,556.04	35,425.66
Belle River R.P.D.—Maidstone and Rochester twps.	87,817.60	43,832.64	43,984.96	8,446.01
Blenheim R.P.D.—Raleigh and Harwich twps.	*107,444.50	52,732.90	54,711.60	3,976.95
Bond Lake R.P.D.—King, Markham, Vaughan, Whitchurch and York N. twps.	331,890.87	165,945.43	165,945.44	27,771.16
Bothwell R.P.D.—Aldborough, Ekfrid, Mosa, Orford and Zone twps.	*54,334.84	26,835.40	27,499.44	4,157.75
Brampton R.P.D.—Chinguacousy and Toronto twps.	78,385.00	39,192.50	39,192.50	4,269.35
Brant R.P.D.—Blenheim, Brantford, Burford, Dumfries S., Oakland and Onondaga twps.	*227,466.48	112,622.33	114,844.15	14,100.41
Brigden R.P.D.—Moore and Sombra twps.	54,675.09	27,337.54	27,337.55	1,973.51
Burford R.P.D.—Brantford, Burford, Oakland, Townsend and Windham twps.	93,034.23	46,517.11	46,517.12	5,124.36
Caledonia R.P.D.—Ancaster, Barton, Binbrook, Caistor, Glanford, Grimsby S., Oneida, Onondaga and Seneca twps.	202,096.52	100,802.33	101,294.19	8,912.33
Chatham R.P.D.—Chatham, Dover E., Harwich and Raleigh twps.	258,017.35	129,008.68	129,008.67	12,647.89
Chippawa R.P.D.—Bertie, Crowland and Willoughby twps.	58,104.36	29,049.30	29,055.06	2,405.43
Clinton R.P.D.—Goderich, Hay, Hullett, Stanley and Tuckersmith twps.	126,143.80	62,133.13	64,010.67	5,003.16
Delaware R.P.D.—Caradoc, Delaware, Ekfrid, Lobo, London, Southwold and Westminster twps.	*225,463.84	111,784.97	113,678.87	8,824.17
Dorchester R.P.D.—Dorchester N., Dorchester S., London, Nissouri E., Nissouri W., Oxford N., Westminster and Yarmouth twps.	*202,777.92	100,397.32	102,380.60	10,102.51

Items marked * include portions of transmission lines aggregating $44,995.90 used for

RURAL POWER DISTRICTS *N.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c
363.43	342.50	295.48	147.74	77.79	1,571.63	1,320.29	....	251.34
172.75	212.76	183.55	91.78	48.32	961.62	887.13	....	74.49
103.97	126.25	108.92	54.46	28.67	705.48	509.05	....	196.43
4,658.70	3,163.51	2,725.81	1,362.91	718.47	32,042.89	35,200.71	3,157.82	....
8,122.59	4,460.49	3,775.46	1,887.72	1,013.03	27,858.44	29,452.53	1,594.09	....
1,645.75	940.85	810.27	405.14	213.68	5,419.70	4,144.44	....	1,275.26
5,396.50	3,847.76	3,305.17	1,652.59	873.87	26,370.97	23,050.86	....	3,320.11
18,260.59	8,324.96	6,942.95	3,471.47	1,890.69	74,316.32	75,426.87	1,110.55	....
3,818.06	2,027.58	1,746.20	873.09	460.48	17,371.42	18,957.35	1,585.93	....
4,372.49	2,511.95	2,127.54	1,063.78	570.50	14,623.21	17,018.78	2,395.57	....
15,107.11	7,385.44	6,371.59	3,185.80	1,677.32	61,498.42	66,163.80	4,665.38	....
3,044.02	1,319.28	1,124.90	562.45	299.62	10,508.02	9,997.89	....	510.13
2,722.51	1,800.60	1,553.42	776.70	408.94	11,531.52	10,070.38	....	1,461.14
9,268.69	5,309.03	4,535.79	2,267.90	1,205.74	36,687.56	31,473.27	....	5,214.29
1,444.14	1,260.43	1,087.40	543.70	286.26	6,595.44	5,402.89	....	1,192.55
3,509.26	2,119.38	1,828.44	914.22	481.34	13,977.00	13,597.80	....	379.20
7,089.00	4,655.48	4,006.55	2,003.28	1,057.31	27,723.95	25,038.94	....	2,685.01
11,594.53	5,864.93	5,059.80	2,529.90	1,331.99	39,029.04	38,880.56	....	148.48
2,528.07	1,340.72	1,156.56	578.28	304.49	8,313.55	8,287.66	....	25.89
4,269.70	2,865.62	2,434.69	1,217.35	650.82	16,441.34	15,169.53	....	1,271.81
9,035.36	5,179.34	4,430.46	2,215.23	1,176.29	30,860.85	30,609.57	....	251.28
8,316.19	4,669.84	3,986.24	1,993.12	1,060.58	30,128.48	30,551.38	422.90	....

purposes of rural power districts.

NIAGARA SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Dresden R.P.D.—Camden, Chatham Gore and Dawn twps.	36,380.21	18,190.11	18,190.10	1,551.97
Drumbo R.P.D.—Blandford, Blenheim and Burford twps.	*99,987.72	49,594.18	50,393.54	3,541.93
Dundas R.P.D.—Ancaster, Beverly, Flamboro W., Flamboro E., Glanford and Nelson twps.	241,776.43	117,420.14	124,356.29	14,587.39
Dunnville R.P.D.—Canborough, Dunn and Moulton twps.	42,560.74	21,280.37	21,280.37	1,262.66
Dutton R.P.D.—Aldborough and Dunwich twps.	73,501.93	36,750.97	36,750.96	4,608.40
Elmira R.P.D.—Peel, Pilkington and Woolwich twps.	34,874.17	17,437.09	17,437.08	2,759.11
Elora R.P.D.—Garafraxa W., Nichol, Peel and Pilkington twps.	83,566.33	41,564.26	42,002.07	3,533.11
Essex R.P.D.—Colchester N., Gosfield N., Gosfield S., Maidstone, Mersea, Rochester and Sandwich S. twps.	*140,126.10	69,165.32	70,960.78	6,278.56
Exeter R.P.D.—Biddulph, Bosanquet, Hay, Hibbert, Stephen, Tuckersmith and Usborne twps.	*143,946.40	71,241.52	72,704.88	11,694.02
Forest R.P.D.—Adelaide, Bosanquet, Plympton, Warwick and Williams W. twps.	*60,641.77	29,979.55	30,662.22	1,589.70
Galt R.P.D.—Beverly, Dumfries N. and Dumfries S. twps.	79,885.82	39,942.91	39,942.91	6,130.70
Georgetown R.P.D.—Chinguacousy, Erin, and Esquesing twps.	103,742.88	51,871.44	51,871.44	4,212.87
Goderich R.P.D.—Ashfield, Colborne, Goderich and Wawanosh W. twps.	71,710.60	35,589.59	36,121.01	4,173.17
Grantham R.P.D.—Grantham and Niagara twps.	145,534.40	68,687.20	76,847.20	17,652.41
Guelph R.P.D.—Eramosa, Guelph, Nassagaweya and Puslinch twps.	181,689.73	90,814.95	90,874.78	12,129.72
Haldimand R.P.D.—Cayuga N., Oneida, Rainham, Seneca and Walpole twps.	*101,014.53	49,156.80	51,857.73	8,444.96
Harriston R.P.D.—Howick and Minto twps.	*32,608.18	16,023.93	16,584.25	863.57
Harrow R.P.D.—Colchester N., Colchester S., Gosfield S. and Malden twps.	137,336.33	68,668.17	68,668.16	13,190.41
Ingersoll R.P.D.—Dereham, Dorchester N., Nissouri E., Oxford N., Oxford W., Zorra E. and Zorra W. twps.	290,124.29	145,062.15	145,062.14	11,877.49
Jordan R.P.D.—Grantham, Louth, Pelham and Thorold twps.	98,666.04	49,333.02	49,333.02	7,836.82
Keswick R.P.D.—Georgina, Gwillimbury N. and Gwillimbury E. twps.	163,537.51	79,191.31	84,346.20	18,268.52
Kingsville R.P.D.—Gosfield N., Gosfield S., Mersea and Romney twps.	*288,182.64	141,927.52	146,255.12	19,670.19
Listowel R.P.D.—Elma, Grey, Maryborough, Mornington, Peel, Wallace and Wellesley twps.	117,836.37	58,918.18	58,918.19	4,818.83

Items marked * include portions of transmission lines aggregating $44,995.90 used for

RURAL POWER DISTRICTS *N.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
793.41	838.42	723.32	361.66	190.42	4,459.20	4,212.04	....	247.16
3,857.09	2,323.56	1,988.61	994.30	527.71	13,233.20	12,123.59	....	1,109.61
10,174.62	5,653.01	4,738.26	2,369.13	1,283.87	38,806.28	39,122.90	316.62	....
2,126.71	915.84	790.12	395.06	208.00	5,698.39	3,382.96	....	2,315.43
3,680.20	1,691.53	1,459.32	729.66	384.17	12,553.28	10,433.94	....	2,119.34
2,363.03	800.42	690.54	345.27	181.78	7,140.15	5,359.88	....	1,780.27
4,996.24	1,912.29	1,641.02	820.51	434.30	13,337.47	10,335.89	....	3,001.58
5,081.21	3,268.51	2,783.91	1,391.96	742.32	19,546.47	22,491.59	2,945.12	....
8,504.68	3,191.76	2,724.32	1,362.16	724.89	28,201.83	27,338.72	....	863.11
1,751.08	1,405.12	1,198.63	599.31	319.12	6,862.96	6,739.23	....	123.73
3,481.10	1,807.88	1,559.70	779.85	410.59	14,169.82	13,596.51	....	573.31
3,400.20	2,372.28	2,046.62	1,023.31	538.77	13,594.05	12,080.99	....	1,513.06
1,885.20	1,515.33	1,296.68	648.34	344.15	9,862.87	8,195.23	....	1,667.64
10,043.04	3,417.79	2,785.40	1,392.70	776.21	36,067.55	36,066.39	....	1.16
6,724.29	4,107.57	3,542.49	1,771.25	932.88	29,208.20	26,339.07	....	2,869.13
7,210.17	2,366.71	1,987.80	993.90	537.51	21,541.05	17,608.63	....	3,932.42
1,012.55	762.38	646.51	323.26	173.15	3,781.42	2,779.18	....	1,002.24
5,037.57	3,143.45	2,711.93	1,355.96	713.91	26,153.23	29,043.50	2,890.27	....
8,931.37	6,642.05	5,730.25	2,865.12	1,508.49	37,554.77	33,272.88	....	4,281.89
5,349.50	2,197.13	1,895.51	947.75	498.99	18,725.70	18,161.72	....	563.98
6,925.20	3,747.98	3,130.38	1,565.19	851.21	34,488.48	32,371.08	....	2,117.40
13,592.59	6,722.21	5,712.85	2,856.43	1,526.69	50,080.96	53,557.84	3,476.88	....
5,025.14	2,689.97	2,320.70	1,160.35	610.92	16,625.91	14,033.27	....	2,592.64

purposes of rural power districts

NIAGARA SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
London R.P.D.—Delaware, Lobo, London, Nissouri W. and Westminster twps.	*452,460.60	225,617.74	226,842.86	44,089.51
Lucan R.P.D.—Biddulph, London, McGillivray and Stephen twps.	*58,020.83	28,845.99	29,174.84	1,996.85
Lynden R.P.D.—Ancaster, Beverly, Brantford and Dumfries S. twps.	103,260.55	51,210.17	52,050.38	5,871.22
Markham R.P.D.—Markham, Pickering, Scarborough, Uxbridge and Whitchurch twps.	*228,562.66	113,141.14	115,421.52	13,667.35
Merlin R.P.D.—Raleigh, Romney and Tilbury E. twps.	143,247.28	71,623.64	71,623.64	7,364.94
Milton R.P.D.—Esquesing, Nassagaweya Nelson and Trafalgar twps.	108,488.53	54,244.26	54,244.27	5,833.90
Milverton R.P.D.—Ellice, Elma, Mornington and Wellesley twps.	65,164.42	32,582.21	32,582.21	2,392.38
Mitchell R.P.D.—Downie, Ellice, Elma, Fullarton, Hibbert, Logan and McKillop twps.	109,781.46	54,890.73	54,890.73	5,996.86
Newmarket R.P.D.—Georgina, Gwillimbury E., King, Scott, Uxbridge and Whitchurch twps.	120,385.47	60,192.74	60,192.73	7,898.87
Niagara R.P.D.—Niagara and Stamford twps.	*126,194.33	62,647.51	63,546.82	9,080.52
Norwich R.P.D.—Burford, Dereham, Middleton, Norwich N., Norwich S., Oxford E. and Windham twps.	*181,308.61	88,749.38	92,559.23	8,427.21
Oil Springs R.P.D.—Brooke, Dawn, Enniskillen and Euphemia twps.	29,686.23	14,843.11	14,843.12	1,772.69
Palmerston R.P.D.—Arthur, Maryborough, Minto, Peel and Wallace twps.	*60,312.85	29,876.28	30,436.57	2,021.78
Petrolia R.P.D.—Enniskillen, Moore, Plympton and Sarnia twps.	*26,075.59	12,484.43	13,591.16	972.89
Preston R.P.D.—Dumfries N., Guelph, Puslinch, Waterloo and Woolwich twps.	*318,742.34	158,093.98	160,648.36	25,945.67
Ridgetown R.P.D.—Aldborough, Harwich, Howard, Orford and Rondeau Park twps.	202,560.06	101,280.03	101,280.03	10,980.99
St. Jacobs R.P.D.—Peel, Waterloo, Wellesley and Woolwich twps.	107,601.88	53,515.21	54,086.67	7,887.08
St. Marys R.P.D.—Blanshard, Downie, Fullarton, Nissouri E., Nissouri W. and Usborne twps.	192,453.85	96,226.92	96,226.93	7,568.26
St. Thomas R.P.D.—Dunwich, Southwold, Westminster and Yarmouth twps.	304,957.81	151,785.16	153,172.65	14,249.36
Saltfleet R.P.D.—Barton, Binbrook, Grimsby N. and Saltfleet twps.	294,546.50	143,183.75	151,362.75	28,553.81
Sandwich R.P.D.—Anderdon, Colchester N., Maidstone, Sandwich E., Sandwich W. and Sandwich S. twps.	341,428.63	170,714.31	170,714.32	27,719.20
Sarnia R.P.D.—Moore, Plympton and Sarnia twps.	*214,251.37	104,924.84	109,326.53	18,548.93
Scarboro R.P.D.—Pickering, Scarboro and York N. twps.	191,100.81	95,550.41	95,550.40	10,007.34

Items marked * include portions of transmission lines aggregating $44,995.90 used for

RURAL POWER DISTRICTS *N.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c	$ c.	$ c.
23,894.84	10,359.88	8,913.20	4,456.60	2,352.85	94,066.88	93,203.47	....	863.41
1,192.16	1,350.75	1,158.74	579.38	306.77	6,584.65	6,542.13	....	42.52
4,536.55	2,357.16	2,022.91	1,011.45	535.34	16,334.63	14,031.73	....	2,302.90
7,552.03	5,225.01	4,462.13	2,231.04	1,186.66	34,324.22	39,491.40	5,167.18	....
3,425.68	3,267.36	2,818.83	1,409.41	742.06	19,028.28	17,837.26	....	1,191.02
4,223.46	2,469.70	2,130.67	1,065.34	560.90	16,283.97	15,225.32	....	1,058.65
2,409.50	1,482.21	1,278.74	639.37	336.63	8,538.83	7,201.22	....	1,337.61
3,748.52	2,440.38	2,105.37	1,052.69	554.24	15,898.06	16,195.71	297.65	....
3,914.38	2,671.93	2,305.13	1,152.57	606.83	18,549.71	19,344.75	795.04	....
9,532.58	2,912.12	2,494.37	1,247.18	661.39	25,928.16	23,248.04	....	2,680.12
8,472.34	4,249.76	3,590.22	1,795.11	965.17	27,499.81	25,308.22	....	2,191.59
1,800.59	685.06	591.02	295.51	155.59	5,300.46	5,288.04	....	12.42
1,694.95	1,401.93	1,198.27	599.13	318.39	7,234.45	4,930.36	....	2,304.09
1,163.87	620.76	513.41	256.71	140.98	3,668.62	3,599.06	....	69.56
11,165.80	7,166.19	6,131.35	3,065.67	1,627.53	55,102.21	53,998.49	....	1,103.72
7,479.68	4,648.66	4,010.50	2,005.25	1,055.77	30,180.85	29,529.41	....	651.44
6,101.84	2,472.39	2,121.55	1,060.78	561.51	20,205.15	17,133.19	....	3,071.96
5,428.34	4,408.81	3,803.58	1,901.79	1,001.29	24,112.07	20,841.54	....	3,270.53
12,358.85	6,913.74	5,936.89	2,968.44	1,570.19	43,997.47	46,282.43	2,284.96	....
17,636.31	6,882.96	5,774.50	2,887.25	1,563.20	63,298.03	65,998.50	2,700.47	....
23,158.78	7,851.31	6,773.50	3,386.75	1,783.12	70,672.66	69,667.54	....	1,005.12
13,453.68	4,959.12	4,190.30	2,095.16	1,126.27	44,373.46	47,313.52	2,940.06	....
5,993.13	4,202.75	3,625.81	1,812.90	954.49	26,596.42	33,354.35	6,757.93	....

urposes of rural power districts.

NIAGARA SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Seaforth R.P.D.—Hibbert, Hullett, McKillop and Tuckersmith twps.	29,402.80	14,083.46	15,319.34	1,942.11
Simcoe R.P.D.—Charlotteville, Townsend, Walpole, Windham and Woodhouse twps.	129,831.68	64,745.55	65,086.13	6,876.76
Stamford R.P.D.—Stamford and Thorold twps.	41,211.74	20,605.87	20,605.87	4,071.99
Stratford R.P.D.—Downie, Easthope N., Easthope S. and Ellice twps.	67,079.92	33,279.11	33,800.81	4,598.14
Strathroy R.P.D.—Adelaide, Caradoc, Ekfrid, Lobo, Metcalfe and Williams E. twps.	101,204.09	50,425.27	50,778.82	3,658.40
Streetsville R.P.D.—Chinguacousy, Esquesing, Toronto and Trafalgar twps.	187,700.07	93,850.04	93,850.03	10,675.09
Tavistock R.P.D.—Easthope N., Easthope S., Ellice and Zorra E. twps.	120,629.22	60,314.61	60,314.61	5,087.05
Thamesville R.P.D.—Camden, Chatham, Euphemia, Harwich, Howard, Orford and Zone twps.	107,547.60	53,522.31	54,025.29	3,563.14
Tilbury R.P.D.—Dover W., Mersea, Rochester, Romney, Tilbury E., Tilbury W. and Tilbury N. twps.	*110,648.45	54,700.13	55,948.32	6,039.71
Tillsonburg R.P.D.—Bayham, Dereham, Dorchester S., Houghton, Malahide, Middleton, Norwich N., Norwich S. and Walsingham N. twps.	201,568.67	100,784.33	100,784.34	10,433.41
Wallaceburg R.P.D.—Chatham, Dover E. and Sombra twps.	154,326.32	76,792.14	77,534.18	7,002.40
Walsingham R.P.D.—Charlotteville, Houghton, Middleton, Walsingham N., Walsingham S. and Windham twps.	*148,749.14	73,865.05	74,884.09	6,623.11
Walton R.P.D.—Grey, Hullett, McKillop, Morris, Wawanosh E. and Wawanosh W. twps.	*80,210.08	38,349.04	41,861.04	4,132.10
Waterdown R.P.D.—Flamboro E., Flamboro W. and Nelson twps.	205,749.58	92,521.64	113,227.94	21,894.57
Waterford R.P.D.—Townsend and Windham twps.	117,271.01	58,635.51	58,635.50	4,962.07
Watford R.P.D.—Adelaide, Metcalfe and Warwick twps.	23,904.03	11,952.02	11,952.01	985.51
Welland R.P.D.—Bertie, Crowland, Humberstone, Moulton, Pelham, Thorold, Wainfleet and Willoughby twps.	*652,765.71	321,346.74	331,418.97	30,967.62
Woodbridge RP.D.—Albion, Chinguacousy, Etobicoke, King, Toronto, Toronto Gore, Vaughan and York N. twps.	*338,237.05	168,240.65	169,996.40	17,636.20
Woodstock R.P.D.—Blandford, Blenheim, Burford, Oxford E., Oxford N., Oxford W., Zorra E. and Zorra W. twps.	224,924.58	112,462.29	112,462.29	14,704.05
	12,823,206.79	6,345,677.89	6,477,528.90	....
Non-operating capital	15,149.60	7,371.69	7,777.91	....
Grand totals	12,838,356.39	6,353,049.58	6,485,306.81	810,110.29

Items marked * include portions of transmission lines aggregating $44,995.90 used for

RURAL POWER DISTRICTS *N.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,484.93	708.06	586.15	293.07	160.81	5,175.13	4,988.00	....	187.13
4,835.74	2,993.53	2,575.77	1,287.89	679.87	19,249.56	18,401.72	....	847.84
4,659.19	945.43	815.64	407.82	214.72	11,114.79	11,625.74	510.95	....
4,672.33	1,547.12	1,324.30	662.16	351.37	13,155.42	11,861.74	....	1,293.68
2,611.26	2,328.00	2,001.35	1,000.68	528.71	12,128.40	11,961.96	....	166.44
6,690.41	4,280.02	3,692.47	1,846.23	972.04	28,156.26	25,199.26	....	2,957.00
5,557.04	2,782.08	2,400.16	1,200.08	631.84	17,658.25	15,057.50	....	2,600.75
3,910.29	2,494.36	2,141.88	1,070.94	566.50	13,747.11	13,177.66	....	569.45
3,159.47	2,548.13	2,173.36	1,086.68	578.71	15,586.06	16,141.44	555.38	....
8,080.12	4,633.17	3,997.14	1,998.57	1,052.25	30,194.66	27,772.02	....	2,422.64
6,290.43	3,902.45	3,352.32	1,676.16	886.29	23,110.05	21,911.32	....	1,198.73
4,136.83	3,282.55	2,811.55	1,405.78	745.50	19,005.32	20,529.21	1,523.89	....
3,688.75	1,902.07	1,570.71	785.35	431.98	12,510.96	11,960.01	....	550.95
13,589.85	5,068.67	3,958.73	1,979.36	1,151.15	47,642.33	49,697.37	2,055.04	....
4,002.21	2,672.46	2,305.59	1,152.80	606.95	15,702.08	15,682.41	....	19.67
572.40	554 08	478.02	239.01	125.84	2,954.86	3,051.33	96.47	....
28,211.50	14,680.64	12,466.75	6,233.38	3,334.13	95,894.02	92,375.20	....	3,518.82
13,591.40	7,732.95	6,636.72	3,318.36	1,756.25	50,671.88	50,554.59	....	117.29
10,233.83	5,164.94	4,455 91	2,227.95	1,173.02	37,959.70	35,997.86	....	1,961.84
....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....
557,105.44	294,442.54	251,397.57	125,698.79	66,871.35	2,105,625.98	2,063,370.73	50,246.15	92,501.40

urposes of rural power districts.

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Acton	Jan., 1913	....	9.50	9.50	....
Agincourt	Nov., 1922	289.61	....	....	289.61
Ailsa Craig	Jan., 1916	532.55	....	....	532.55
Alvinston	April, 1922	....	24.83	24.83	....
Amherstburg	Nov., 1925	4,595.75	....	....	4,595.75
Ancaster twp.	May, 1923	....	29.59	32.26	2.67
Arkona	Dec., 1926	23.18	....	....	23.18
Aylmer	Mar., 1918	1,499.70	....	....	1,499.70
Ayr	Jan., 1915	860.59	....	....	860.59
Baden	May, 1912	515.07	....	....	515.07
Beachville	Aug., 1912	1,325.66	....	....	1,325.66
Belle River	Dec., 1922	305.29	....	....	305.29
Blenheim	Nov., 1915	....	276.51	276.51	....
Blyth	July, 1924	642.78	....	....	642.78
Bolton	Feb., 1915	655.94	....	....	655.94
Bothwell	Sept., 1915	....	627.60	627.60	....
Brampton	Nov., 1911	4,145.83	....	....	4,145.83
Brantford	Feb., 1914	....	5,618.58	5,618.58	....
Brantford twp.	May, 1924	....	286.06	286.06	....
Bridgeport	Mar., 1928	470.48	....	....	470.48
Brigden	Jan., 1918	772.85	....	....	772.85
Brussels	July, 1924	833.61	....	....	833.61
Burford	June, 1915	315.96	....	....	315.96
Burgessville	Nov., 1916	....	688.85	688.85	....
Caledonia	Oct., 1912	234.05	....	....	234.05
Campbellville	Jan., 1925	144.41	....	....	144.41
Cayuga	Nov., 1924	725.22	....	....	725.22
Chatham	Feb., 1915	7,288.41	....	....	7,288.41
Chippawa	Sept., 1919	512.92	....	....	512.92
Clifford	May, 1924	181.36	....	....	181.36
Clinton	Mar., 1914	577.54	....	....	577.54
Comber	May, 1915	597.54	....	....	597.54
Cottam	Nov., 1926	194.97	....	....	194.97
Courtright	Dec., 1923	99.94	....	....	99.94
Dashwood	Sept., 1917	297.46	....	....	297.46
Delaware	Mar., 1915	73.87	....	0.39	74.26
Dorchester	Dec., 1914	....	4.43	4.43	....
Drayton	Mar., 1918	....	65.98	65.98	....
Dresden	April, 1915	652.84	....	....	652.84
Drumbo	Dec., 1914	479.05	....	....	479.05
Dublin	Oct., 1917	....	287.01	....	....
Dundas	Jan., 1911	1,497.51	....	....	1,497.51
Dunnville	June, 1918	3,181.73	....	....	3,181.73
Dutton	Sept., 1915	1,157.11	....	....	1,157.11
East Windsor	Nov., 1922	4,731.69	....	....	4,731.69

SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
	0.12		13.01		13.13
4.00		232.09		236.09	
9.39			210.04		200.65
	0.33	330.14		329.81	
72.10		1,754.23		1,826.33	
	0.44		357.51		357.95
.38			14.36		13.98
19.56			6.17	13.39	
15.35		44.74		60.09	
7.06			168.86		161.80
18.46		452.58		471.04	
5.05			162.79		157.74
	4.33	259.78		255.45	
10.07		392.91		402.98	
9.70		529.66		539.36	
	9.35		137.89		147.24
53.16			1,892.62		1,839.46
	8.55		4,467.37		4,475.92
	4.89		733.10		737.99
6.24			27.04		20.80
10.25		355.18		365.43	
12.88		396.07		408.95	
5.09		189.59		194.68	
	11.77		208.45		220.22
3.16			659.56		656.40
1.98			35.12		33.14
10.74			432.41		421.67
100.64			523.64		423.00
9.82			41.83		32.01
2.88			372.01		369.13
7.78			495.93		488.15
7.55		278.70		286.25	
3.06		70.64		73.70	
1.65			253.32		251.67
4.09			89.19		85.10
1.37		4.50		5.87	
	0.10		234.30		234.40
	0.82		379.08		379.90
9.23		338.43		347.66	
8.27		258.80		267.07	
	11.48		109.99		408.48
24.29			1,520.21		1,495.92
44.84		3,475.50		3,520.34	
14.33		340.39		354.72	
70.00			1,082.44		1,012.44

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Elmira	Nov., 1913	524.45			524.45
Elora	Nov., 1914	785.20			785.20
Embro	Jan., 1915	842.66			842.66
Erieau	July, 1924		5.40	5.40	
Erie Beach	July, 1925	50.72			50.72
Essex	Nov., 1923	236.36			236.36
Etobicoke	Aug., 1917	6,103.00			6,103.00
Exeter	June, 1916	1,357.60			1,357.60
Fergus	Nov., 1914	78.79			78.79
Fonthill	June, 1926		129.94	129.94	
Forest	Mar., 1917	429.11			429.11
Galt	May, 1911	14,435.61			14,435.61
Georgetown	Sept., 1913		305.46	305.46	
Glencoe	Aug., 1920		540.12	545.66	5.54
Goderich	Feb., 1914		511.15	511.15	
Granton	July, 1916		68.59	68.59	
Guelph	Dec., 1910		4,455.14	4,455.14	
Hagersville	Sept., 1913	1,677.99			1,677.99
Hamilton	Feb., 1911		122,122.18	122,122.18	
Harriston	July, 1916		625.15	625.15	
Harrow	Nov., 1923	2,003.92			2,003.92
Hensall	Jan., 1917	539.63			539.63
Hespeler	Feb., 1911	3,828.92			3,828.92
Highgate	Dec., 1916		134.68	134.68	
Humberstone	Oct., 1924		534.54	534.54	
Ingersoll	May, 1911		2,521.53	2,521.53	
Jarvis	Feb., 1924	471.50			471.50
Kingsville	Nov., 1923	1,547.18			1,547.18
Kitchener	Jan., 1911	1,989.97			1,989.97
Lambeth	April, 1915	453.45			453.45
La Salle	Nov., 1925	311.39			311.39
Leamington	Nov., 1923	3,985.55			3,985.55
Listowel	June, 1916	899.87			899.87
London	Jan., 1911	52,818.01			52,818.01
London Railway Commission	Aug., 1914		12,298.53	12,298.53	
London twp.	Jan., 1925	1,096.56			1,096.56
Long Branch	Jan., 1931		356.08	356.08	
Lucan	Feb., 1915	191.94			191.94
Lynden	Nov., 1915	348.30			348.30
Markham	April, 1920	1,063.88			1,063.88
Merlin	Dec., 1922		51.18	51.18	
Merritton	Nov., 1920		662.61	662.61	
Milton	April, 1913	791.61			791.61
Milverton	June, 1916		10.98	10.98	
Mimico	May, 1912	1,043.59			1,043.59

SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
7.18			540.61		533.43
9.98			516.81		506.83
11.67		350.58		362.25	
	0.10	263.69		263.59	
0.72		77.41		78.13	
3.91			35.06		31.15
82.27		2,781.24		2,863.51	
19.29			198.65		179.36
1.13			886.23		885.10
	2.32	321.55		319.23	
5.60		870.45		876.05	
199.76		424.70		624.46	
	4.28		807.68		811.96
	10.09	290.62		280.53	
	6.89		1,427.19		1,434.08
	1.26		210.56		211.82
	82.02		2,622.42		2,704.44
29.67			1,989.73		1,960.06
	2,127.94		80,489.92		82,617.86
	12.07		607.37		619.44
30.69		102.52		133.21	
10.31			172.04		161.73
61.76		2,850.17		2,911.93	
	2.01	134.79		132.78	
	6.95		162.12		169.07
	43.34		3,712.82		3,756.16
7.80			995.86		988.06
22.50		70.34		92.84	
26.39			5,493.50		5,467.11
8.84		152.94		161.78	
4.23		104.24		108.47	
62.46			393.56		331.10
13.81			704.11		690.30
711.96			7,509.92		6,797.96
	313.53		8,333.61		8,647.14
14.06		278.35		292.41	
	4.80	618.14		613.34	
2.44			85.69		83.25
7.53		147.75		155.28	
15.35		543.53		558.88	
	0.72		103.28		104.00
	8.53		719.66		728.19
9.98			1,119.83		1,109.85
	0.14		251.62		251.76
17.27			195.89		178.62

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Mitchell	Sept., 1911	1,057.54			1,057.54
Moorefield	Mar., 1918	33.40			33.40
Mount Brydges	Mar., 1915	550.78			550.78
Newbury	Mar., 1921		149.22	149.22	
New Hamburg	Mar., 1911	552.05			552.05
New Toronto	Feb., 1914	6,749.02			6,749.02
Niagara Falls	Dec., 1915		30,619.69	336.37	
Niagara-on-the-Lake	Aug., 1919	68.61			68.61
Norwich	May, 1912		216.74	216.74	
Oil Springs	Feb., 1918	428.82			428.82
Otterville	Feb., 1916		381.81	381.81	
Palmerston	July, 1916		275.75	275.75	
Paris	Feb., 1914	2,215.41			2,215.41
Parkhill	May, 1920	691.96			691.96
Petrolia	May, 1916	1,359.79			1,359.79
Plattsville	Dec., 1914	825.29			825.29
Point Edward	Nov., 1916	2,738.99			2,738.99
Port Colborne	Mar., 1920		199.38	199.38	
Port Credit	Aug., 1912		247.95	247.95	
Port Dalhousie	Nov., 1912	214.50			214.50
Port Dover	Dec., 1921	274.20			274.20
Port Rowan	Nov., 1926	806.94			806.94
Port Stanley	April, 1912	1,642.85			1,642.85
Preston	Jan., 1911		222.22	222.22	
Princeton	Jan., 1915	1,009.94			1,009.94
Queenston	Mar., 1921	105.39			105.39
Richmond Hill	June, 1925	1,739.77			1,739.77
Ridgetown	Dec., 1915		419.58	419.58	
Riverside	Nov., 1922	3,201.68			3,201.68
Rockwood	Sept., 1913	529.93			529.93
Rodney	Feb., 1917		435.48	435.48	
St. Catharines	April, 1914		12,934.36	12,934.36	
St. Clair Beach	Nov., 1922	252.82			252.82
St. George	Sept., 1915	29.42			29.42
St. Jacobs	Sept., 1917	298.36			298.36
St. Marys	May, 1911	2,632.30			2,632.30
St. Thomas	April, 1911	15,827.24			15,827.24
Sandwich	Feb., 1924	5,511.51			5,511.51
Sarnia	Dec., 1916	23,767.17			23,767.17
Scarboro twp.	Aug., 1918	5,133.02			5,133.02
Seaforth	Nov., 1911	285.33			285.33
Simcoe	Aug., 1915	2,954.96			2,954.96
Springfield	Aug., 1917		121.83	121.83	
Stamford twp.	Nov., 1916		609.18	609.18	
Stouffville	Sept., 1923	983.06			983.06

SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
16.21			195.84		179.63
0.49			171.93		171.44
7.90		108.39		116.29	
	1.96	50.54		48.58	
7.74		439.93		447.67	
93.93		5,841.19		5,935.12	
	1,211.33		18,404.74		49,899.39
0.93			66.80		65.87
	2.92		220.71		223.63
5.92		578.83		584.75	
	4.90		168.27		173.17
	4.38		330.31		334.69
31.56			540.79		509.23
11.25		87.07		98.32	
18.93		2,325.04		2,343.97	
13.18		258.40		271.58	
39.28		1,626.75		1,666.03	
	3.12	1,258.41		1,255.29	
	3.48		827.89		831.37
2.84			189.87		187.03
3.85		1,275.30		1,279.15	
8.22		294.00		302.22	
36.76		1,020.46		1,057.22	
	2.95		1,221.18		1,224.13
15.83		520.82		536.65	
1.48		89.20		90.68	
35.99		1,719.01		1,755.00	
	6.25	41.96		35.71	
47.37			732.20		684.83
7.64		103.47		111.11	
	6.49		388.35		394.84
	229.86		5,056.45		5,286.31
3.74			109.04		105.30
0.37		215.67		216.04	
3.76			396.03		392.27
42.69			2,099.66		2,056.97
230.05		1,591.19		1,821.24	
76.71		973.99		1,050.70	
338.13		10,873.22		11,211.35	
68.07		4,066.22		4,134.29	
3.81			316.44		312.63
42.10		2,195.33		2,237.43	
	1.70		63.79		65.49
	9.35		1,475.80		1,485.15
19.80		248.99		268.79	

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Stratford	Jan., 1911	25,236.86			25,236.86
Strathroy	Dec., 1914	3,540.38			3,540.38
Sutton	Aug., 1923	1,281.56			1,281.56
Tavistock	Nov., 1916		512.16	512.16	
Tecumseh	Nov., 1922	1,285.29			1,285.29
Thamesford	Feb., 1914	451.58			451.58
Thamesville	Oct., 1915		188.03	188.03	
Thedford	May, 1922	54.12			54.12
Thorndale	Mar., 1914	164.69		5.56	170.25
Thorold	Jan., 1921	705.82			705.82
Tilbury	April, 1915	1,833.67			1,833.67
Tillsonburg	Aug., 1911	1,151.98			1,151.98
Toronto	June, 1911	69,566.26			69,566.26
Toronto twp.	Aug., 1913	1,723.27			1,723.27
Walkerville	Nov., 1914	9,900.02			9,900.02
Wallaceburg	Feb., 1915	750.53			750.53
Wardsville	June, 1921		147.77	147.77	
Waterdown	Nov., 1911	674.64		326.83	1,001.47
Waterford	April, 1915	650.51			650.51
Waterloo	Dec., 1910	3,855.37			3,855.37
Watford	Sept., 1917	644.19			644.19
Welland	Sept., 1917		4,105.12	4,140.87	35.75
Wellesley	Nov., 1916		218.78	218.78	
West Lorne	Jan., 1917	49.56			49.56
Weston	Jan., 1911	3,705.30			3,705.30
Wheatley	Feb., 1924	695.94			695.94
Windsor	Oct., 1914	39,254.28			39,254.28
Woodbridge	Dec., 1914	292.01			292.01
Woodstock	Jan., 1911	5,128.64			5,128.64
Wyoming	Nov., 1916		352.34	352.34	
York East twp.	July, 1925	3,310.59			3,310.59
York North twp.	Nov., 1923		761.30	761.30	
Zurich	Sept., 1917	542.00			542.00
Toronto Transportation Comm.	Jan., 1927	1,820.35			1,820.35
RURAL POWER DISTRICT*					
Acton R.P.D.	Feb., 1928		416.70		30.00
Ailsa Craig R.P.D.	Sept., 1930	42.22			
Alvinston R.P.D.	June, 1929		413.45		
Amherstburg R.P.D.	Nov., 1923	27,651.27			148.56
Aylmer R.P.D.	Nov., 1922	13,222.77			883.51

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SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
376.71		2,756.37		3,133.08	
55.48		2,132.17		2,187.65	
19.96		504.99		524.95	
	7.86	665.99		658.13	
19.01			128.49		109.48
6.28			76.01		69.73
	3.71	357.95		354.24	
0.90		497.13		498.03	
2.62		57.04		59.66	
9.51		38.36		47.87	
27.61			164.20		136.59
15.15		30.73		45.88	
937.71			118,851.10		117,913.39
24.17		1,472.78		1,496.95	
146.47			4,981.98		4,835.51
10.36			711.90		701.54
	3.77	43.17		39.40	
11.60		126.04		137.64	
8.13		486.71		494.84	
48.17			14,197.04		14,148.87
10.66		1,037.11		1,047.77	
	112.06		572.39		684.45
	2.90	49.34		46.44	
0.73		50.81		51.54	
55.63		1,642.37		1,698.00	
10.16			219.96		209.80
546.33			8,015.38		7,469.05
3.90		475.00		478.90	
82.62			4,667.50		4,584.88
	5.33	269.47		264.14	
43.54		2,353.09		2,396.63	
	14.85	1,244.66		1,229.81	
7.66			127.04		119.38
29.99		359.71		389.70	
	16.67		251.34		714.71
1.69			74.49		30.58
	16.54		196.43		626.42
1,105.82		3,157.82		31,766.35	
527.28		1,594.09		14,460.63	

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Rural power district*	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Ayr R.P.D.	July, 1926	929.50			
Baden R.P.D.	Sept., 1922		2,618.01		187.81
Beamsville R.P.D.	Jan., 1923	42,906.65			814.15
Belle River R.P.D.	Dec., 1922	31,123.02			177.07
Blenheim R.P.D.	July, 1924	15,790.10			30.00
Bond Lake R.P.D.	Mar., 1924	48,163.85			932.99
Bothwell R.P.D.	Dec., 1923	6,868.19			172.94
Brampton R.P.D.	Nov., 1923	919.69			117.69
Brant R.P.D.	Oct., 1922		3,050.86		1,590.00
Brigden R.P.D.	Jan., 1927		3,264.22		20.00
Burford R.P.D.	Dec., 1926	2,612.52			300.00
Caledonia R.P.D.	Oct., 1925		2,611.19		1,287.82
Chatham R.P.D.	May, 1922	17,757.86			60.71
Chippawa R.P.D.	July, 1922	3,331.26			150.00
Clinton R.P.D.	July, 1928		1,921.11		240.00
Delaware R.P.D.	Oct., 1922	3,602.59			656.52
Dorchester R.P.D.	Dec., 1921		1,861.59		417.98
Dresden R.P.D.	May, 1928		305.41		
Drumbo R.P.D.	Aug., 1922	1,190.94			
Dundas R.P.D.	Jan., 1922	19,959.94			429.27
Dunnville R.P.D.	July, 1928		2,725.54		
Dutton R.P.D.	Feb., 1926		693.35		596.55
Elmira R.P.D.	June, 1926		1,580.47		30.00
Elora R.P.D.	Jan., 1926		629.88		122.00
Essex R.P.D.	Nov., 1924	17,870.19			204.08
Exeter R.P.D.	Nov., 1922	12,726.42			20.00
Forest R.P.D.	Nov., 1926		235.14		
Galt R.P.D.	Oct., 1922	2,729.51			3.50
Georgetown R.P.D.	Nov., 1924	2,485.24			372.59
Goderich R.P.D.	June, 1925		1,942.70		40.00
Grantham R.P.D.	Nov., 1924	1,083.72			674.21
Guelph R.P.D.	Jan., 1925		7,324.28		174.36
Haldimand R.P.D.	Oct., 1925	4,132.77			726.86
Harriston R.P.D.	Dec., 1929		1,241.01		20.00
Harrow R.P.D.	Nov., 1923	16,262.32			120.00
Ingersoll R.P.D.	Oct. 1922		2,192.54		113.50
Jordan R.P.D.	May, 1922	12,619.14			174.01
Keswick R.P.D.	Mar., 1924		6,781.22		334.97
Kingsville R.P.D.	Nov., 1923	34,612.32		88.15	320.00
Listowel R.P.D.	Oct., 1926	587.85			144.76
London R.P.D.	Nov., 1922	17,784.51			174.10
Lucan R.P.D.	June, 1926		298.13		

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*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
37.18	....	....	1,275.26	....	308.58
....	104.72	....	3,320.11	....	6,230 65
1,715.08	....	1,110.55	....	44,918.13	....
1,244.54	....	1,585.93	....	33,776.42	....
631.60	....	2,395.57	....	18,787.27	....
1,920.96	....	4,665.38	....	53,817.20	....
274.73	....	....	510.13	6,459.85	....
36.38	....	....	1,461.14	....	622.76
....	122.03	....	5,214.29	....	9,977.18
....	130.57	....	1,192.55	....	4,607.34
104.50	....	....	379.20	2,037.82	....
....	111.72	....	2,685.01	....	6,695.74
709.92	....	....	148.48	18,258.59	....
133.25	....	....	25.89	3,288.62	....
....	76.84	....	1,271.81	....	3,509.76
139.65	....	....	251.28	2,834.44	....
....	76.61	422.90	....	....	1,933.28
....	12.22	....	247.16	....	564.79
47.64	....	....	1,109.61	128.97	....
797.44	....	316.62	....	20,644.73	....
....	109.02	....	2,315.43	....	5,149.99
....	37.01	....	2,119.34	....	3,446.25
....	63.22	....	1,780.27	....	3,453.96
....	25.39	....	3,001.58	....	3,778.85
714.69	....	2,945.12	....	21,325.92	....
509.06	....	....	863.11	12,352.37	....
....	9.41	....	123.73	....	368.28
109.18	....	....	573.31	2,261.88	....
99.27	....	....	1,513.06	698.86	....
....	77.71	....	1,667.64	....	3,728.05
42.91	....	....	1.16	451.26	....
....	292.97	....	2,869.13	....	10,659.74
165.31	....	....	3,932.42	....	361.20
....	49.64	....	1,002.24	....	2,312.89
650.49	....	2,890 27	....	19,683.08	....
....	87.93	....	4,281.89	....	6,676 86
504.14	....	....	563.98	12,385.29	....
....	273.72	....	2,117.40	....	9,507.31
1,384.79	....	3,476.88	....	39,242.14	....
23.43	....	....	2,592.64	....	2,126.12
710.43	....	....	863.41	17,457.43	....
....	11.93	....	42.52	....	352.58

NIAGARA

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Rural power district*	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Lynden R.P.D.	Feb., 1922	93.69			190.36
Markham R.P.D.	Dec., 1922	26,582.07			412.60
Merlin R.P.D.	Nov., 1928		3,649.49		431.56
Milton R.P.D.	Jan., 1925	5,783.96			112.85
Milverton R.P.D.	Aug., 1927		4,126.27		
Mitchell R.P.D.	Dec., 1925	1,681.50			60.00
Newmarket R.P.D.	Mar., 1924	5,826.65			11.32
Niagara R.P.D.	Jan., 1922	22,007.03		5.00	270.00
Norwich R.P.D.	May, 1925	7,626.78			64.16
Oil Springs R.P.D.	Dec., 1925	2,772.93			
Palmerston R.P.D.	Oct., 1926		3,715.48		40.00
Petrolia R.P.D.	Aug., 1923		534.60		
Preston R.P.D.	April, 1922	9,160.16			780.02
Ridgetown R.P.D.	Mar., 1922	2,183.20			71.70
St. Jacobs R.P.D.	Nov., 1922	3,743.01			272.70
St. Marys R.P.D.	Dec., 1927		7,765.93		80.00
St. Thomas R.P.D.	Aug., 1923	17,561.83			310.00
Saltfleet R.P.D.	Feb., 1922	1,945.81			1,753.10
Sandwich R.P.D.	July, 1922	61,622.41			5,959.80
Sarnia R.P.D.	June, 1923	13,072.95			150.39
Scarboro R.P.D.	Dec., 1923	24,294.55			2,140.02
Seaforth R.P.D.	Nov., 1927		358.05		90.00
Simcoe R.P.D.	Nov., 1922	3,311.29			291.86
Stamford R.P.D.	Mar., 1922	8,061.14			2,368.71
Stratford R.P.D.	July, 1924	207.31			
Strathroy R.P.D.	Dec., 1926		508.48		40.00
Streetsville R.P.D.	Nov., 1922	19,271.56			7,404.43
Tavistock R.P.D.	April, 1923		5,967.91		182.38
Thamesville R.P.D.	Nov., 1927	1,212.47			183.60
Tilbury R.P.D.	Dec., 1923	5,007.08			90.00
Tillsonburg R.P.D.	Dec., 1923	6,953.77			172.84
Wallaceburg R.P.D.	Jan., 1923	9,511.49			160.00
Walsingham R.P.D.	Dec., 1926	3,055.17			90.00
Walton R.P.D.	Nov., 1924	2,473.41			40.00
Waterdown R.P.D.	Oct., 1922	41,936.16			1,818.84
Waterford R.P.D.	Nov., 1923		738.78		170.00
Watford R.P.D.	Dec., 1929		346.86		
Welland R.P.D.	April, 1922	43,190.23			9,859.53
Woodbridge R.P.D.	Jan., 1923	15,615.02			282.33
Woodstock R.P.D.	Feb., 1922	11,761.89			87.57
Totals		1,139,553.57	276,189.54	176,270.45	452,892.61

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*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

SYSTEM *N.—CREDIT OR CHARGE*

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3.68			2,302.90		2,395.89
1,061.58		5,167.18		32,398.23	
	145.98		1,191.02		5,418.05
229.60			1,058.65	4,842.06	
	165.05		1,337.61		5,628.93
67.26		297.65		1,986.41	
232.95		795.04		6,843.32	
880.37			2,680.12	19,942.28	
304.36			2,191.59	5,675.39	
110.92			12.42	2,871.43	
	148.62		2,304.09		6,208.19
	21.38		69.56		625.54
364.32			1,103.72	7,640.74	
87.33			651.44	1,547.39	
149.26			3,071.96	547.61	
	310.64		3,270.53		11,427.10
702.47		2,284.96		20,239.26	
74.61		2,700.47		2,967.79	
2,464.60			1,005.12	57,122.09	
522.65		2,940.06		16,385.27	
963.48		6,757.93		29,875.94	
	14.32		187.13		649.50
132.15			847.84	2,303.74	
300.03		510.95		6,503.41	
8.29			1,293.68		1,078.08
	20.34		166.44		735.26
769.42			2,957.00	9,679.55	
	240.24		2,600.75		8,991.28
48.50			569.45	507.92	
200.28		555.38		5,672.74	
275.37			2,422.64	4,633.66	
380.46			1,198.73	8,533.22	
122.21		1,523.89		4,611.27	
98.94			550.95	1,981.40	
1,677.45		2,055.04		43,849.81	
	29.55		19.67		958.00
	13.87	96.47			264.26
1,604.45			3,518.82	31,416.33	
622.90			117.29	15,838.30	
469.09			1,961.84	10,181.57	
35,000.91	7,134.20	124,787.46	413,104.46	810,579.69	484,288.11

NIAGARA SYSTEM

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932	$18,065,909.62	
Deduct:		
Expenditures to October 31, 1932	1,436,017.09	
Balance brought forward October 31, 1932		$16,629,892.53
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them	$1,064,624.94	
Amounts included in costs of distribution of power within rural power districts	251,397.57	
Provision against equipment employed in respect of contracts with private companies which purchased power and against equipment in local distribution systems	312,153.93	
Payments by Ottawa Valley Power Company in respect of Chats Falls transformer station under agreement	12,141.91	
Reserve provided in respect of lines transferred to certain rural power districts from power properties	2,070.37	
Reserve provided in respect of equipment transferred	1,406.49	
Interest at 4% per annum on the monthly balances at the credit of the account	665,334.77	
		2,309,129.98
		$18,939,022.51
Deduct:		
Expenditures during the year ending October 31, 1933		252,832.62
Balance carried forward October 31, 1933		$18,686,189.89

NIAGARA SYSTEM

Reserve for Obsolescence and Contingencies—October 31, 1933

Balance brought forward October 31, 1932			$12,440,735.02
Added during the year ending October 31, 1933:			
Amounts included in the costs of distribution of power within rural power districts		$125,698.79	
Adjustment in respect of power delivered to private companies in the year ending October 31, 1932		1,118.84	
Payments by Ottawa Valley Power Co. in respect of Chats Falls transformer station under agreement		13,133.32	
Share of profits realized in respect of the sale of certain of the Commission's investment securities		44,203.20	
Profit on English exchange in connection with transfer of funds to London to retire debenture stock	$820,516.50		
Less—Commission's share of American exchange paid during the year by the Province of Ontario and by the Commission on the transfer of funds to New York to meet capital retirements	118,008.83		
		702,507.67	
Interest at 4% per annum on monthly balances at the credit of the account		497,629.40	
			1,384,291.22
			$13,825,026.24
Deduct:			
Interest on Commission's advances to, and investment in the capital stock of, the Hamilton Street Railway Company	$164,220.43		
in excess of profit for the year (before provision for renewal of road and equipment) from operation of the street railway	27,307.72		
		$136,912.71	
Contingencies met with during the year incidental to plant operations		272,571.70	
Cost to the Commission (including provisions for sinking fund $431,003.02 and renewals $312,153.93) of power delivered to private companies and customers under flat rate contracts in excess of the revenue received from them		2,221,034.43	
Amount appropriated to provide a reserve for the Commission's claim against Dominion Government in respect of income tax		72,334.46	
Amount appropriated from the contingency reserve and applied proportionately to each municipality in reduction of the cost of delivery of power thereto		2,015,572.30	
			4,718,425.60
Balance carried forward October 31, 1933			$9,106,600.64

NIAGARA SYSTEM

SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system and interest allowed thereon to October 31, 1933

Municipality	Period of years ending Oct. 31, 1933	Amount	Municipality	Period of years ending Oct. 31, 1933	Amount
		$ c.			$ c.
Acton	16 years	34,576.27	Elmira	15 years	46,936.38
Agincourt	9 “	5,182.99	Elora	14 “	22,693.58
Ailsa Craig	13 “	9,541.72	Embro	14 “	6,527.33
Alvinston	10 “	9,622.20	Erieau	10 “	2,938.52
Amherstburg	16 “	27,567.04	Erie Beach	9 “	747.87
Ancaster twp	10 “	8,321.47	Essex	10 “	15,657.28
Arkona	7 “	2,948.25	Etobicoke twp	11 “	92,232.23
Aylmer	10 “	22,779.10	Exeter	12 “	23,307.91
Ayr	14 “	8,153.15	Fergus	14 “	28,771.67
Baden	16 “	19,259.17	Fonthill	8 “	2,800.14
Beachville	16 “	23,913.36	Forest	11 “	16,729.43
Belle River	11 “	5,164.20	Galt	17 “	313,276.52
Blenheim	13 “	21,191.34	Georgetown	15 “	55,732.50
Blyth	10 “	4,935.50	Glencoe	10 “	10,750.22
Bolton	13 “	10,636.75	Goderich	14 “	70,410.65
Bothwell	13 “	11,113.15	Granton	12 “	4,760.53
Brampton	17 “	93,084.35	Guelph	17 “	368,952.35
Brantford	14 “	473,680.24	Hagersville	15 “	47,251.46
Brantford twp	10 “	15,720.56	Hamilton	17 “	2,173,195.35
Bridgeport	6 “	2,607.10	Harriston	12 “	19,021.07
Brigden	11 “	7,049.89	Harrow	10 “	11,158.25
Brussels	10 “	6,968.52	Hensall	12 “	8,596.60
Burford	13 “	7,656.25	Hespeler	17 “	56,882.64
Burgessville	12 “	3,190.64	Highgate	12 “	5,893.16
Caledonia	16 “	12,346.64	Humberstone	10 “	9,735.62
Campbellville	9 “	860.46	Ingersoll	17 “	105,017.04
Cayuga	9 “	4,608.67	Jarvis	10 “	7,844.51
Chatham	13 “	222,270.09	Kingsville	10 “	21,171.01
Chippawa	11 “	9,683.44	Kitchener	17 “	704,233.55
Clifford	10 “	3,400.81	Lambeth	13 “	5,287.52
Clinton	14 “	26,385.91	LaSalle	8 “	6,920.00
Comber	13 “	11,265.98	Leamington	10 “	38,294.17
Cottam	7 “	1,912.56	Listowel	12 “	40,935.07
Courtright	10 “	3,068.73	London	17 “	1,276,199.72
Dashwood	11 “	4,929.81	London Ry. Comn.	14 “	84,384.56
Delaware	13 “	1,607.07	London twp	9 “	7,958.96
Dorchester	14 “	3,991.12	Long Branch	3 “	6,340.04
Drayton	10 “	6,777.75	Lucan	13 “	11,298.71
Dresden	13 “	17,862.77	Lynden	13 “	8,470.87
Drumbo	14 “	3,658.36	Markham	10 “	9,223.04
Dublin	11 “	3,357.12	Merlin	10 “	7,210.65
Dundas	17 “	81,992.63	Merritton	12 “	51,801.81
Dunnville	10 “	32,056.77	Milton	15 “	62,216.95
Dutton	13 “	11,117.92	Milverton	12 “	27,538.79
East Windsor	11 “	125,360.56	Mimico	16 “	74,423.84

NIAGARA SYSTEM

SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system and interest allowed thereon to October 31, 1933

Municipality	Period of years ending Oct. 31, 1933	Amount	Municipality	Period of years ending Oct. 31, 1933	Amount
		$ c.			$ c.
Mitchell	17 years	25,154.35	Stratford	17 years	341,228.19
Moorefield	10 “	3,564.98	Strathroy	14 “	47,541.31
Mount Brydges	13 “	3,954.00	Sutton	10 “	7,140.47
Newbury	10 “	2,459.74	Tavistock	12 “	24,238 67
New Hamburg	17 “	28,962.42	Tecumseh	11 “	13,344.22
New Toronto	14 “	233,643.69			
Niagara Falls	13 “	322,289.01	Thamesford	14 “	9,606.22
Niagara-on-Lake	10 “	16,284.04	Thamesville	13 “	9,545.28
Norwich	16 “	21,467.24	Thedford	10 “	4,809.74
Oil Springs	10 “	14,703.00	Thorndale	14 “	5,154.87
			Thorold	11 “	45,966.73
Otterville	12 “	4,586.52			
Palmerston	12 “	24,034.50			
Paris	14 “	65,116.46	Tilbury	13 “	24,728.27
Parkhill	10 “	10,093.35	Tillsonburg	17 “	47,955.04
Petrolia	12 “	58,101.13	Toronto	17 “	10,262,345.03
			Toronto twp	15 “	48,982.20
Plattsville	14 “	5,100.27	Walkerville	14 “	356,447.26
Point Edward	11 “	25,866.17			
Port Colborne	12 “	49,150.47			
Port Credit	16 “	19,681.98	Wallaceburg	13 “	102,741.31
Port Dalhousie	12 “	16,815.86	Wardsville	10 “	1,876.72
			Waterdown	17 “	13,365.35
Port Dover	10 “	12,733.61	Waterford	13 “	17,475.90
Port Rowan	7 “	3,408.20	Waterloo	17 “	142,961.10
Port Stanley	16 “	22,072.23			
Preston	17 “	155,142.27			
Princeton	14 “	4,534.68	Watford	11 “	11,763.78
			Welland	11 “	148,814.76
Queenston	10 “	3,708.42	Wellesley	12 “	9,904.27
Richmond Hill	9 “	8,304.53	West Lorne	12 “	16,699.36
Ridgetown	13 “	23,153.15	Weston	17 “	125,872.53
Riverside	11 “	43,095.44			
Rockwood	15 “	6,373.61			
			Wheatley	10 “	6,384.47
Rodney	11 “	6,962.59	Windsor	14 “	1,056,217.61
St. Catharines	12 “	290,602.66	Woodbridge	14 “	16,082.48
St. Clair Beach	11 “	3,600.11	Woodstock	17 “	210,352.26
St. George	13 “	7,663.23	Wyoming	12 “	4,467.98
St. Jacobs	11 “	7,966.38			
St. Marys	17 “	76,957.11	York East twp	9 “	116,767.89
St. Thomas	17 “	264,228.94	York North twp	10 “	49,580.68
Sandwich	10 “	125,752.20	Zurich	11 “	7,563.75
Sarnia	12 “	328,029.30			
Scarboro twp	10 “	84,438.89			
Seaforth	17 “	37,447.48	Toronto Trans. Com.	12 “	130,530.48
Simcoe	13 “	49,310.53	Sandwich, Windsor & Amherstburg Ry. Co.	11 “	101,335.75
Springfield	11 “	5,308.21			
Stamford twp	12 “	48,099.73	Windsor, Essex & Lake Shore Railway Association	4 “	9,259.79
Stouffville	10 “	7,758.09			

NIAGARA SYSTEM *SINKING FUND*

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system and interest allowed thereon to October 31, 1933

Rural power district*	Period of years ending Oct. 31, 1933	Amount	Rural power district*	Period of years ending Oct. 31, 1933	Amount
		$ c.			$ c.
Acton R.P.D	6 years	405.75	**London** R.P.D	11 years	54,493.27
Ailsa Craig R.P.D	4 “	170.17	**Lucan** R.P.D	8 “	3,332.92
Alvinston R.P.D	5 “	202.32	**Lynden** R.P.D	12 “	8,580.31
Amherstburg R.P.D	10 “	25,798.26	**Markham** R.P.D	11 “	14,665.29
Aylmer R.P.D	12 “	12,872.68	**Merlin** R.P.D	5 “	6,114.96
Ayr R.P.D	8 “	1,621.95	**Milton** R.P.D	9 “	5,397.17
Baden R.P.D	12 “	12,436.62	**Milverton** R.P.D	7 “	2,540.21
Beamsville R.P.D	11 “	37,770.12	**Mitchell** R.P.D	8 “	7,252.84
Belle River R.P.D	11 “	12,380.64	**Newmarket** R.P.D	10 “	9,169.68
Blenheim R.P.D	10 “	6,342.27	**Niagara** R.P.D	12 “	19,264.59
Bond Lake R.P.D	10 “	28,437.76	**Norwich** R.P.D	9 “	16,848.79
Bothwell R.P.D	10 “	5,657.07	**Oil Springs** R.P.D	8 “	2,490.86
Brampton R.P.D	10 “	4,711.20	**Palmerston** R.P.D	7 “	1,480.01
Brant R.P.D	12 “	16,315.54	**Petrolia** R.P.D	11 “	1,314.67
Brigden R.P.D	7 “	2,729.97	**Preston** R.P.D	12 “	33,516.33
Burford R.P.D	7 “	4,853.22	**Ridgetown** R.P.D	12 “	16,433.13
Caledonia R.P.D	9 “	9,601.41	**St. Jacobs** R.P.D	11 “	10,503.65
Chatham R.P.D	12 “	18,909.14	**St. Marys** R.P.D	6 “	8,598.99
Chippawa R.P.D	12 “	6,281.65	**St. Thomas** R.P.D	11 “	23,105.95
Clinton R.P.D	6 “	5,051.52	**Saltfleet** R.P.D	12 “	39,176.80
Delaware R.P.D	11 “	14,701.73	**Sandwich** R.P.D	12 “	46,136.33
Dorchester R.P.D	12 “	20,064.21	**Sarnia** R.P.D	11 “	22,963.59
Dresden R.P.D	6 “	1,145.60	**Scarboro** R.P.D	10 “	10,388.35
Drumbo R.P.D	12 “	6,047.40	**Seaforth** R.P.D	6 “	1,883.47
Dundas R.P.D	12 “	19,963.40	**Simcoe** R.P.D	11 “	7,194.26
Dunnville R.P.D	6 “	917.32	**Stamford** R.P.D	12 “	6,005.06
Dutton R.P.D	8 “	3,795.94	**Stratford** R.P.D	10 “	8,514.34
Elmira R.P.D	8 “	1,864.68	**Strathroy** R.P.D	7 “	3,587.60
Elora R.P.D	8 “	4,986.77	**Streetsville** R.P.D	11 “	13,199.60
Essex R.P.D	9 “	10,071.77	**Tavistock** R.P.D	11 “	7,224.75
Exeter R.P.D	11 “	12,796.31	**Thamesville** R.P.D	6 “	4,152.17
Forest R.P.D	7 “	1,634.31	**Tilbury** R.P.D	10 “	5,252.35
Galt R.P.D	12 “	6,112.59	**Tillsonburg** R.P.D	10 “	19,917.27
Georgetown R.P.D	9 “	4,842.98	**Wallaceburg** R.P.D	11 “	12,098.06
Goderich R.P.D	9 “	3,747.23	**Walsingham** R.P.D	7 “	5,969.83
Grantham R.P.D	9 “	20,922.32	**Walton** R.P.D	9 “	4,262.46
Guelph R.P.D	9 “	10,164.29	**Waterdown** R.P.D	11 “	18,372.66
Haldimand R.P.D	9 “	5,674.11	**Waterford** R.P.D	10 “	5,891.90
Harriston R.P.D	4 “	714.81	**Watford** R.P.D	4 “	743.09
Harrow R.P.D	10 “	12,227.93	**Welland** R.P.D	12 “	53,087.00
Ingersoll R.P.D	12 “	13,565.80	**Woodbridge** R.P.D	11 “	28,184.12
Jordan R.P.D	12 “	8,170.83	**Woodstock** R.P.D	12 “	24,376.66
Keswick R.P.D	10 “	14,553.94	Total		$24,564,512.19
Kingsville R.P.D	10 “	32,901.03			
Listowel R.P.D	7 “	4,849.35			

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

NIAGARA SYSTEM

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932		$21,808,954.04
Provided in the year ending October 31, 1933, in respect of:		
Advances by the Province for construction of transmission lines and stations	$488,381.90	
Advances by the Province for construction of rural power districts	66,871.35	
Advances by the Province for construction of pipe line to Ontario Power generating station	36,923.85	
Advances by the Province for construction of Queenston-Chippawa development	809,295.21	
Bonds issued and assumed by the Commission in connection with the purchase of the properties of the Ontario Power Company, Toronto Power Company, Essex system and Thorold system	481,727.68	
Interest at 4% per annum on amounts standing at the credit of the reserve accounts	872,358.16	
		2,755,558.15
Total		$24,564,512.19

NIAGARA SYSTEM—RURAL LINES

Statement showing Interest, Sinking Fund, Renewals and Contingencies charged by the Commission to the Municipalities which operate the respective rural lines for the year ending October 31, 1933

Operated by	Capital cost	Interest	Sinking fund	Renewals	Contingencies	Total interest, sinking fund, renewals and contingencies charged
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Milton	15,909.84	789.13	286.38	318.20	159.10	1,552.81
Welland	19,617.60	823.94	353.12	392.35	196.18	1,765.59
Totals	35,527.44	1,613.07	639.50	710.55	355.28	3,318.40

NIAGARA SYSTEM—RURAL LINES

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932		$5,570.79
Deduct:		
Expenditures to October 31, 1932		288.03
Balance brought forward October 31, 1932		$5,282.76
Added during the year ending October 31, 1933:		
By charges against the municipalities which operate the lines	$710.55	
Interest at 4% per annum on monthly balances at the credit of the account	211.31	
		921.86
Balance carried forward October 31, 1933		$6,204.62

NIAGARA SYSTEM—RURAL LINES

Reserve for Contingencies—October 31, 1933

Balance brought forward October 31, 1932		$2,588.80
Added during the year ending October 31, 1933:		
By charges against municipalities which operate the lines	$355.28	
Interest at 4% per annum on monthly balances at the credit of the account	103.55	
		458.83
Balance carried forward October 31, 1933		$3,047.63

NIAGARA SYSTEM—RURAL LINES

Statement showing the total Sinking Fund paid in respect of each line, together with interest allowed thereon to October 31, 1933

Lines operated by	Period of years ending October 31, 1933	Amount
		$ c.
Milton	20 years	3,432.62
Welland	21 "	10,613.50
Total	....	14,046.12

NIAGARA SYSTEM—RURAL LINES

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932	$12,890.98
Provided in the year ending October 31, 1933	639.50
Interest at 4% per annum on the amount standing at the credit of the account	515.64
	$14,046.12

GEORGIAN BAY

Operating Account for Year

Costs of operation as provided under the terms of the Power Commission Act

Power purchased		$27,316.52
Costs of operation and maintenance, including the proportion of administrative expenses chargeable to the operation of the system:		
General and transmission equipment	$381,803.94	
Rural power districts	56,844.72	
Water heater costs written off in year to extent of revenue available from water heater loads	1,360.10	
		440,008.76
Interest (including exchange thereon) on capital investment in:		
Generation and transmission equipment	$360,090.48	
Rural power districts	36,600.19	
		396,690.67
Provision for renewal of:		
Generation and transmission equipment	$99,221.22	
Rural power districts	28,890.44	
		128,111.66
Provision for obsolescence and contingencies in respect of:		
Generation and transmission equipment	$28,258.29	
Rural power districts	28,890.44	
		57,148.73
Provision for sinking fund:		
By charges included in the cost of power delivered to municipalities and rural power districts	$73,332.45	
By charges against contracts with private companies which purchased power	6,507.93	
By charges included in the cost of distribution of power within rural power districts	7,986.56	
		87,826.9
		$1,137,103.2

GEORGIAN BA

Statement showing the amount to be paid by each Municipality as the Cost—unde received by the Commission from each Municipality on account of such cost upon ascertainment (by annual adjustment) of the actual cos

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (includin exchange
	$ c.	$ c.	$ c.		$ c.	$ c.	$
Alliston	60.00	60.00	93,245.06	212.9	246.61	4,160.11	4,425
Arthur	75.00	75.00	69,439.48	128.8	149.19	3,848.78	3,275
Barrie	36.00	36.00	586,604.30	2,251.6	2,608.13	29,559.87	27,838
Beaverton	43.00	43.00	54,558.64	179.4	207.81	3,407.74	2,550
Water heater load	......	......	....	1.0	....	*43.39	....
Beeton	75.00	75.00	59,115.84	104.7	121.28	2,443.99	2,794
Bradford	70.00	70.00	64,418.93	134.0	155.22	3,170.93	3,045
Brechin	58.00	55.00	19,602.61	51.9	60.12	1,091.10	914
Cannington	45.00	45.00	47,543.65	153.6	177.92	2,864.87	2,232
Water heater load	......	......	....	0.3	....	*13.06	....
Chatsworth	45.00	45.00	16,338.44	52.3	60.58	1,185.01	778
Chesley	40.00	40.00	137,164.84	472.2	546.97	6,620.21	6,498
Water heater load	......	......	....	1.6	....	*60.07	....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM

Ending October 31, 1933

REVENUE FOR PERIOD

Collected from municipalities	$863,748.55	
Power sold to private companies	62,987.29	
Collected from customers in rural power districts	236,399.48	
		$1,163,135.32
Add:		
Amounts due by certain municipalities, being the difference between the sums paid and the cost of power supplied to them in the year	$5,337.24	
Amounts due by municipalities comprising certain rural power districts, being the difference between the revenue collected from customers therein and the cost of power supplied to them in the year	33,035.17	
		38,372.41
		$1,201,507.73
Deduct:		
Amounts collected from certain municipalities in excess of the sums required to be paid by them for power supplied in the year	$61,309.81	
Amounts collected from customers in certain rural power districts in excess of the cost of power delivered thereto	3,094.64	
		64,404.45
Revenue		$1,137,103.28
		$1,137,103.28

YSTEM *G.B.—COST OF POWER*

he Power Commission Act—of Power supplied to it by the Commission; the amount nd the amount remaining to be credited or charged to each Municipality f power supplied to it in the year ending October 31, 1933

osts and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,404.09	310.39	981.00	164.23	11,692.06	13,238.12	1,546.06	....
1,107.93	227.94	729.57	99.35	9,438.03	10,034.11	596.08	....
6,869.66	2,208.93	6,173.52	1,736.85	76,995.12	84,121.28	7,126.16	....
702.98	202.72	573.82	138.39	7,783.85	8,034.60	207.36	....
....	....	....	....	43.39			
955.33	189.71	621.87	80.76	7,207.65	8,135.12	927.47	....
998.54	215.88	677.88	103.37	8,367.51	9,703.83	1,336.32	....
279.92	71.81	206.31	40.03	2,663.73	2,986.37	322.64	....
618.29	174.99	499.94	118.48	6,686.98	7,166.80	466.76	....
....	....	....	....	13.06			
215.75	65.52	172.97	40.34	2,518.59	2,438.41	....	80.18
1,723.92	530.41	1,443.82	364.25	17,728.30	19,658.84	1,870.47	....
....	....	....	....	60.07			

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual cost

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Coldwater	39.00	39.00	46,757.06	149.3	172.94	2,621.17	2,209.99
Water heater load	......	......	....	0.3	....	*12.88	....
Collingwood	40.00	40.00	372,399.07	1,227.0	1,421.29	20,534.53	17,438.98
Water heater load	......	......	....	1.8	....	*73.99	....
Cookstown	60.00	60.00	20,317.93	50.9	58.96	1,040.24	962.97
Creemore	55.00	55.00	41,559.11	103.3	119.66	2,554.45	1,966.06
Dundalk	42.00	42.00	44,739.14	156.3	181.05	2,606.43	2,117.81
Durham	42.00	45.00	110,220.03	369.6	428.12	6,795.19	5,203.33
Water heater load	......	......	....	0.6	....	*25.48	....
Elmvale	43.00	43.00	44,000.51	152.6	176.76	2,711.95	2,064.67
Elmwood	53.00	50.00	18,321.43	59.9	69.38	1,098.39	871.21
Flesherton	45.00	50.00	24,978.44	75.6	87.57	1,561.06	1,182.15
Grand Valley	58.00	60.00	42,848.34	103.8	120.24	2,423.38	2,020.10
Gravenhurst	24.00	28.00	123,251.04	609.4	....	6,055.20	5,865.82
Hanover	35.00	35.00	244,743.65	918.2	1,063.59	11,464.66	11,511.28
Water heater load	......	......	....	1.6	....	*54.38	....
Holstein	90.00	90.00	14,491.22	17.2	19.92	826.58	685.97
Huntsville	26.00	28.00	225,369.17	951.5	....	12,925.53	10,671.10
Water heater load	......	......	....	1.2	....	*37.81	....
Kincardine	58.00	58.00	198,043.04	474.1	549.17	8,935.70	9,410.26
Water heater load	......	......	....	2.8	....	*147.26	....
Kirkfield	60.00	60.00	11,025.25	22.6	26.18	553.33	520.27
Lucknow	63.00	63.00	86,045.36	182.2	211.05	3,902.32	4,095.09
Markdale	40.00	40.00	41,943.59	150.3	174.10	2,337.35	1,992.31
Water heater load	......	......	....	0.4	....	*15.16	....
Meaford	46.00	46.00	136,569.77	387.4	448.74	6,342.98	6,512.16
Water heater load	......	......	....	0.6	....	*26.98	....
Midland	35.00	35.00	653,715.41	2,513.3	2,911.27	31,788.27	30,729.93
Water heater load	......	......	....	3.8	....	*127.44	....
Mildmay	60.00	60.00	19,886.90	57.9	67.07	1,088.12	959.37
Mount Forest	48.00	50.00	114,732.39	329.4	381.56	6,282.25	5,430.91
Neustadt	70.00	70.00	30,586.21	30.7	35.56	972.24	1,440.45
Orangeville	45.00	48.00	198,253.24	539.6	625.04	9,854.82	9,344.07
Water heater load	......	......	....	2.3	....	*109.80	....
Owen Sound	36.00	36.00	827,269.38	3,151.0	3,649.96	40,295.34	39,251.54
Water heater load	......	......	....	3.1	....	*105.40	....
Paisley	55.00	60.00	52,780.42	111.0	128.58	2,283.51	2,514.43
Penetanguishene	40.00	40.00	169,665.45	556.9	645.08	7,523.41	7,950.37
Water heater load	......	......	....	1.8	....	*68.34	....
Port Elgin	40.00	40.00	63,647.31	210.8	244.18	3,247.57	3,062.19
Water heater load	......	......	....	1.3	....	*52.07	....
Port McNicoll	38.00	42.00	24,518.37	83.7	96.95	1,278.15	1,161.90
Port Perry	50.00	52.00	74,755.98	187.6	217.30	3,801.96	3,550.40

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *G.B.—COST OF POWER*

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
612.84	183.45	492.18	115.17	6,407.74	6,049.49	....	371.13
....	....	....	....	12.88			
4,798.54	1,376.63	3,919.65	946.49	50,436.11	51,019.69	509.59	....
....	....	....	....	73.99			
296.26	75.29	213.78	39.26	2,686.76	3,152.66	465.90	....
609.67	148.20	438.28	79.68	5,916.00	5,887.63	....	28.37
557.26	170.60	470.88	120.57	6,224.60	6,796.35	571.75	....
1,406.41	417.51	1,160.15	285.10	15,695.81	17,075.87	1,354.58	....
....	....	....	....	25.48			
550.56	170.33	463.14	117.71	6,255.12	6,788.35	533.23	....
237.11	74.13	192.85	46.21	2,589.28	3,126.02	536.74	....
304.17	91.05	262.94	58.32	3,547.26	3,836.84	289.58	....
630.63	149.48	449.89	80.07	5,873.79	6,423.96	550.17	....
1,146.46	486.22	1,295.58	470.08	15,319.36	16,663.25	1,343.89	....
2,912.37	968.62	2,575.96	708.28	31,204.76	33,483.03	2,223.89	....
....	....	....	....	54.38			
252.69	42.45	152.57	13.27	1,993.45	1,615.08	....	378.37
2,450.02	830.21	2,370.34	733.98	29,981.18	27,211.74	....	2,807.25
....	....	....	....	37.81			
2,923.82	671.68	2,077.72	365.71	24,934.06	28,718.31	3,636.99	....
....	....	....	....	147.26			
171.48	36.65	115.95	17.43	1,441.29	1,411.26	....	30.03
1,327.57	291.96	905.85	140.55	10,874.39	11,918.03	1,043.64	....
480.98	155.63	441.52	115.94	5,697.83	6,246.07	533.08	....
....	....	....	....	15.16			
1,895.16	484.18	1,437.69	298.83	17,419.74	18,532.68	1,085.96	....
....	....	....	....	26.98			
7,648.53	2,388.93	6,880.74	1,938.72	84,286.39	91,445.55	7,031.72	....
....	....	....	....	127.44			
257.31	77.47	209.34	44.66	2,703.34	3,618.66	915.32	....
1,583.15	402.33	1,207.55	254.09	15,541.84	16,936.35	1,394.51	....
545.43	88.39	322.03	23.68	3,427.78	2,232.28	....	1,195.50
2,763.11	689.82	2,067.48	416.24	25,760.58	26,699.88	829.50	....
....	....	....	....	109.80			
9,732.57	3,070.49	8,702.08	2,430.63	107,132.61	117,805.83	10,567.82	....
....	....	....	....	105.40			
815.99	180.66	555.66	85.62	6,564.45	6,834.75	270.30	....
2,190.68	618.94	1,785.74	429.58	21,143.80	23,214.94	2,002.80	....
....	....	....	....	68.34			
817.92	239.15	670.00	162.61	8,443.62	8,813.18	317.49	....
....	....	....	....	52.07			
309.67	96.33	258.08	64.56	3,265.64	3,569.92	304.28	....
1,086.56	249.99	785.09	144.71	9,836.01	10,055.25	219.24	....

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual cost

Municipality	Interim rates per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Priceville	85.00	85.00	8,628.88	16.7	19.34	412.91	408.11
Ripley	80.00	80.00	33,261.70	55.7	64.52	1,561.29	1,580.81
Rosseau	127.00	127.00	29,386.39	33.1	....	1,259.54	1,413.48
Shelburne	46.00	46.00	67,053.06	197.9	229.24	4,140.49	3,154.90
Water heater load	......	......	....	0.2	....	*9.64	....
Southampton	40.00	40.00	59,238.29	210.4	243.71	3,425.19	2,848.75
Water heater load	......	......	....	1.9	....	*74.63	....
Stayner	44.00	44.00	59,023.33	193.9	224.60	3,594.03	2,792.33
Water heater load	......	......	....	0.8	....	*34.53	....
Sunderland	60.00	63.00	25,625.78	57.4	66.49	1,458.23	1,195.12
Tara	53.00	53.00	26,298.75	73.2	84.79	1,262.12	1,238.86
Teeswater	58.00	60.00	47,019.77	106.4	123.25	2,365.42	2,228.01
Thornton	85.00	80.00	10,778.54	20.5	23.75	572.45	508.50
Tottenham	92.00	95.00	42,835.45	60.1	69.62	1,639.76	2,029.58
Uxbridge	55.00	55.00	84,314.89	201.5	233.41	4,157.92	4,009.68
Victoria Harbour	46.00	46.00	23,206.10	72.5	83.98	1,222.36	1,096.42
Walkerton	38.00	38.00	121,227.75	443.0	513.15	6,181.93	5,830.58
Water heater load	......	......	....	3.5	....	*126.08	....
Waubaushene	44.00	44.00	13,822.58	50.1	58.03	1,067.31	653.75
Water heater load	......	......	....	0.4	....	*17.46	....
Wiarton	65.00	65.00	110,415.76	207.8	240.70	5,383.18	5,314.70
Windermere	100.00	85.00	16,347.24	32.6	....	868.99	784.65
Wingham	60.00	60.00	129,101.62	261.1	302.44	5,587.98	6,113.49
Woodville	56.00	58.00	24,573.30	58.0	67.18	1,330.18	1,143.93
RURAL POWER DISTRICT							
Alliston R.P.D.—Essa, Tecumseth and Tossorontio twps.			29,659.00	78.6	91.05	1,276.04	1,420.32
Arthur R.P.D.—Luther E. and Luther W. twps.			1,320.95	3.2	3.71	67.19	62.94
Bala R.P.D.—Wood and Medora twp.			28,730.33	103.6	120.01	1,365.73	1,376.21
Water heater load			....	0.8	....	*28.48	....
Barrie R.P.D.—Innisfil, Oro and Vespra twps.			77,475.19	235.0	272.21	3,555.02	3,702.40
Water heater load			....	0.1	....	*4.29	....
Baysville R.P.D.—Franklin, Macaulay, McLean, Ridout and Sherbourne twps.			17,444.69	47.9	....	1,169.02	839.99
Beaumaris R.P.D.—Macaulay, Monck, Muskoka and Wood and Medora twps			35,465.73	143.2	....	1,730.12	1,692.19
Water heater load			....	2.0	....	*62.22	....

*Heater costs written off in year to extent of revenue available from heater loads.

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private .companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
135.24	37.67	90.16	12.88	1,116.31	1,466.36	350.05	....
545.01	106.65	350.19	42.97	4,251.44	4,625 49	374.05	....
515.76	89.97	309.13	25.53	3,613.41	4,361.26	747.85	....
907.09	249.32	702.29	152.66	9,535.99	9,438.60	....	107.03
....	....	....	....	9.64			
730.61	229.93	623.57	162.30	8,264.06	8,798.42	459.73	....
....	....	....	....	74.63			
761.83	225.13	621.27	149.57	8,368.76	8,867.50	464.21	....
....	....	....	....	34.53			
388.23	86.39	269.58	44.28	3,508.32	3,712.00	203.68	....
367.94	100.28	276.84	56.47	3,387.30	3,993.16	605.86	....
710.70	180.36	495.00	82.08	6,184.82	6,589.41	404.59	....
171.23	39.05	113.43	15.81	1,444.22	1,712.72	268.50	....
726.06	133.13	450.51	46.36	5,095.02	5,885.69	790.67	....
1,248.08	283.71	885.91	155.43	10,974.14	11,500.94	526.80	....
307.63	87.76	244.29	55.93	3,098.37	3,453.27	354.90	....
1,350.21	464.65	1,276.03	341.72	15,958.27	17,602.68	1,518.33	....
....	....	....	....	126.08			
168.31	55.59	145.50	38.65	2,187.14	2,296.04	91.44	....
....	....	....	....	17.46			
1,759.69	361.25	1,162.43	160.29	14,382.24	14,042.86	....	339.38
256.42	57.58	172.02	25.15	2,164.81	2,915.47	750.66	....
2,018.38	443.21	1,359.15	201.41	16,026.06	16,326.01	299.95	....
365.88	82.64	258.49	44.74	3,293.04	3,460.29	167.25	....
423.21	103.39	312.07	60.63	3,686.71	3,686.71	see page	223
19.44	4.61	13.87	2.47	174.23	174.23	"	"
325.49	109.62	302.33	79.92	3,679.31	3,707.79	"	"
....	....	....	....	28.48			
1,041.68	308.81	815.29	181.27	9,876.68	9,880.97	"	"
....	....	....	....	4.29			
245.35	77.14	183.57	36.95	2,552.02	2,552.02	"	"
400.28	148.30	373.35	110.46	4,454.70	4,516.92	"	"
....	....	....	....	62.22			

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual cost

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Beaverton R.P.D.—Brock, Georgina, Mara and Thorah twps.	41,769.58	129.0	149.42	2,517.95	2,000.80
Beeton R.P.D.—Tecumseth twp.	2,145.55	3.8	4.40	80.49	103.15
Bradford R.P.D.—Gwillimbury W., King and Tecumseth twps.	20,439.71	40.9	47.38	860.38	982.12
Bruce R.P.D.—Brant, Carrick, Culross, Greenock and Saugeen twps.	38,289.76	99.9	115.71	1,653.29	1,842.02
Water heater load	....	0.1	....	*3.82	....
Buckskin R.P.D.—Matchedash and Wood and Medora twps.	5,604.47	13.8	15.98	223.42	267.50
Cannington R.P.D.—Brock, Eldon and Mariposa twps.	11,810.71	36.0	41.70	621.57	552.19
Chatsworth R.P.D.—Holland twp.	3,909.54	8.7	10.08	300.96	187.18
Cookstown R.P.D.—Essa and Innisfil twps.	319.32	0.8	0.93	13.80	15.30
Creemore R.P.D.—Nottawasaga, Osprey, Sunnidale and Tossorontio twps.	18,556.34	55.0	63.71	953.45	891.21
Elmvale R.P.D.—Flos, Medonte, Oro and Vespra twps.	19,643.14	60.0	69.50	889.77	937.90
Flesherton R.P.D.—Artemesia twp.	2,556.06	8.0	9.27	127.31	120.42
Gravenhurst R.P.D.—Muskoka twp.	5,080.26	23.0	....	351.46	241.70
Hawkestone R.P.D.—Orillia and Oro twps.	613.46	67.7	1,567.34	126.44	25.66
Holstein R.P.D.—Bentinck, Egremont and Normanby twps.	....	....	....	....	....
Huntsville R.P.D.—Brunel, Chaffey and Franklin twps.	10,803.44	36.4	....	640.04	518.15
Innisfil R.P.D.—Gwillimbury W. and Innisfil twps.	69,476.44	178.4	206.65	2,889.20	3,325.29
Water heater load	....	0.3	....	*14.37	....
Lucknow R.P.D.—Kinloss twp.	....	....	....	....	....
Mariposa R.P.D.—Brock, Mariposa and Reach twps.	43,455.20	128.6	148.96	2,099.81	2,053.35
Markdale R.P.D.—Artemesia, Euphrasia, Glenelg and Holland twps.	10,694.49	29.6	34.29	550.47	512.84
Meaford R.P.D.—St. Vincent twp.	....	....	....	....	....
Medonte R.P.D.—Baxter and Tay twps.	5,683.53	20.6	23.86	335.78	272.50
Water heater load	....	0.2	....	*7.77	....
Midland R.P.D.—Tay and Tiny twps.	5,856.59	22.9	26.53	342.09	280.38
Neustadt R.P.D.—Bentinck twp.	....	....	....	....	....
Nottawasaga R.P.D.—Nottawasaga twp.	8,339.94	25.9	30.00	473.32	387.28

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*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *G.B.—COST OF POWER*

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
556.28	155.22	439.36	99.50	5,918.53	5,918.53	see page	223
34.67	6.89	22.57	2.93	255.10	255.10	"	"
320.32	69.78	215.09	31.55	2,526.62	2,526.62	"	"
542.19	140.32	403.09	77.08	4,773.70	4,777.52	"	"
....	....	....	....	3.82			
82.30	24.29	59.00	10.65	683.14	683.14	"	"
158.26	42.84	124.20	27.77	1,568.53	1,568.53	"	"
59.41	16.90	41.16	6.71	622.40	622.40	"	"
4.66	1.18	3.36	0.62	39.85	39.85	"	"
252.37	68.39	195.32	42.43	2,466.88	2,466.88	"	"
263.32	80.34	206.77	46.28	2,493.88	2,493.88	"	"
30.44	10.18	26.91	6.17	330.70	330.70	"	"
51.84	20.52	53.41	17.74	736.67	736.67	"	"
12.28	3.06	6.46	52.22	1,793.46	1,793.46	"	"
....	....	....	....	....	....	"	"
137.36	42.67	113.65	28.08	1,479.95	1,479.95	"	"
1,003.67	249.67	731.00	137.61	8,543.09	8,557.46	"	"
....	....	....	....	14.37			
....	....	....	....	....	....	"	"
590.25	156.71	456.79	99.20	5,605.07	5,605.07	"	"
147.85	44.98	112.58	22.84	1,425.85	1,425.85	"	"
....	....	....	....	....	....	see page	225
69.20	22.86	59.82	15.89	799.91	807.68	"	"
....	....	....	....	7.77			
67.70	21.41	61.65	17.66	817.42	817.42	"	"
....	....	....	....	....	....	"	"
110.88	31.45	87.78	19.98	1,140.69	1,140.69	"	"

GEORGIAN BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; upon ascertainment (by annual adjustment) of the actual cost

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Orangeville R.P.D.—Amaranth, Caledon, Erin and Garafraxa E. twps...	12,617.89	32.3	37.41	561.23	595.34
Owen Sound R.P.D.—Derby, Sarawak and Sydenham twps..........	6,379.75	24.3	28.15	302.77	306.99
Port Perry R.P.D.—Cartwright, Manvers, Reach and Scugog twps......	42,916.32	105.7	122.44	2,414.01	2,046.95
Ripley R.P.D.—Huron and Kinloss twps..........................	4,542.12	10.1	11.70	200.33	217.69
Sauble R.P.D.—Amabel and Keppel twps..........................	8,671.21	16.5	19.11	377.05	417.68
Shelburne R.P.D.—Amaranth, Melancthon and Mulmur twps........	9,533.54	25.7	29.77	620.45	453.96
Sparrow Lake R.P.D.—Matchedash, Morrison, Orillia N. and Rama twps.	28,165.67	105.7	122.44	1,202.51	1,336.90
Water heater load	....	0.1	....	*3.30	....
Tara R.P.D.—Amabel, Arran, Derby and Keppel twps.................	17,474.28	48.1	55.72	906.57	832.09
Thornton R.P.D.—Essa twp........	7,285.22	13.1	15.17	336.34	349.43
Utterson R.P.D.—Cardwell, Humphrey, Stephenson, Watt, and Wood and Medora twps................	20,000.39	50.7	....	815.82	958.68
Uxbridge R.P.D.—Brock, Georgina, Reach, Scott and Uxbridge twps.....	39,501.46	93.3	108.07	1,953.15	1,882.75
Wasaga Beach R.P.D.—Flos, Nottawasaga and Sunnidale twps........	51,169.79	168.1	194.72	2,562.45	2,426.52
Wroxeter R.P.D.—Howick, Morris and Turnberry twps..............	50,996.87	97.0	112.36	2,081.30	2,433.22
Totals—Municipalities...............	6,157,625.18	20,026.4	21,313.30	311,549.97	291,396.66
Water heater loads..........	....	31.3	....	*1,235.85	....
Totals—Rural Power Districts........	814,397.93	2,391.1	3,909.75	39,548.10	38,869.19
Water heater loads..........	....	3.6	....	*124.25	....
Totals—Companies and distributing systems..................	620,329.47	1,807.3	2,093.47	30,705.87	29,824.63
	7,592,352.58				
Non-operating capital...............	8,514.50	....	....	....	....
Grand totals..................	7,600,867.08	24,259.7	27,316.52	383,164.04	360,090.48

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM

G.B.—COST OF POWER

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Municipality of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
180.41	45.04	131.66	24.92	1,576.01	1,576.01	see page	225
75.06	23.68	67.11	18.74	822.50	822.50	“	“
628.12	144.84	450.73	81.54	5,888.63	5,888.63	“	“
69.04	15.61	47.82	7.79	569.98	569.98	“	“
137.81	31.25	91.29	12.73	1,086.92	1,086.92	“	“
134.32	36.50	99.90	19.82	1,394.72	1,394.72	“	“
335.14	112.30	296.47	81.54	3,487.30	3,490.60	“	“
....	....	....	....	3.30			
245.64	70.41	183.95	37.10	2,331.48	2,331.48	“	“
117.38	26.94	76.67	10.11	932.04	932.04	“	“
290.43	72.06	210.48	39.11	2,386.58	2,386.58	“	“
587.12	133.68	415.06	71.97	5,151.80	5,151.80	“	“
660.46	195.17	538.61	129.67	6,707.60	6,707.60	“	“
807.05	178.96	535.05	74.82	6,222.76	6,222.76	“	“
79,625.63	22,439.34	64,767.20	15,448.03	806,540.13	863,748.55	61,309.81	5,337.24
....	....	....	....	1,235.85			
11,218.68	3,047.97	8,565.25	1,844.47	107,003.41	107,127.66	....	....
....	....	....	....	124.25			
8,376.91	2,770.98	6,507.93	(17,292.50)	62,987.29	62,987.29	....	....
99,221.22	28,258.29	79,840.38	....	977,890.93	1,033,863.50	....	....

GEORGIAN BAY SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged to annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			
	Total capital cost	Government grant	Commission's investment	Cost of power delivered to districts as shown in "cost of power" table preceding
	$ c.	$ c.	$ c.	$ c.
Alliston R.P.D.—Essa, Tecumseth and Tossorontio twps	38,476.46	18,986.95	19,489.51	3,686.71
Arthur R.P.D.—Luther E. and Luther W. twps	*4,303.91	2,105.26	2,198.65	174.23
Bala R.P.D.—Wood and Medora twp	*62,316.35	30,274.16	32,042.19	3,707.79
Barrie R.P.D.—Innisfil, Oro and Vespra twps.	122,538.62	61,269.31	61,269.31	9,880.97
Baysville R.P.D.—Franklin, Macaulay, McLean, Ridout and Sherbourne twps	68,729.20	34,364.60	34,364.60	2,552.02
Beaumaris R.P.D.—Macaulay, Monck, Muskoka, Wood and Medora twps	66,062.87	33,031.44	33,031.43	4,516.92
Beaverton R.P.D.—Brock, Georgina, Mara and Thorah twps	*57,360.58	28,400.68	28,959.90	5,918.53
Beeton R.P.D.—Tecumseth twp	3,018.23	1,509.11	1,509.12	255.10
Bradford R.P.D.—Gwillimbury W., King and Tecumseth twps	37,348.15	18,509.01	18,839.14	2,526.62
Bruce R.P.D.—Brant, Carrick, Culross, Greenock and Saugeen twps	*58,770.96	27,769.19	31,001.77	4,777.52
Buckskin R.P.D.—Matchedash, Wood and Medora twps	4,078.59	2,039.29	2,039.30	683.14
Cannington R.P.D.—Brock, Eldon and Mariposa twps	*19,300.43	8,033.14	11,267.29	1,568.53
Chatsworth R.P.D.—Holland twp	1,414.37	707.19	707.18	622.40
Cookstown R.P.D.—Essa and Innisfil twps	704.54	352.27	352.27	39.85
Creemore R.P.D.—Nottawasaga, Osprey, Sunnidale and Tossorontio twps	*45,796.11	22,234.97	23,561.14	2,466.88
Elmvale R.P.D.—Flos, Medonte, Oro and Vespra twps	39,707.49	19,720.57	19,986.92	2,493.88
Flesherton R.P.D.—Artemesia twp	*5,286.73	2,456.59	2,830.14	330.70
Gravenhurst R.P.D.—Muskoka twp	4,960.99	2,480.49	2,480.50	736.67
Hawkestone R.P.D.—Orillia and Oro twps	44,823.40	22,411.70	22,411.70	1,793.46
Holstein R.P.D.—Bentinck, Egremont and Normanby twps	1,897.34	948.67	948.67	....
Huntsville R.P.D.—Brunel, Chaffey and Franklin twps	47,521.93	23,760.96	23,760.97	1,479.95
Innisfil R.P.D.—Gwillimbury W. and Innisfil twps	78,694.24	39,347.12	39,347.12	8,557.46
Lucknow R.P.D.—Kinloss twp	637.09	318.55	318.54	....
Mariposa R.P.D.—Brock, Mariposa and Reach twps	76,123.16	38,061.58	38,061.58	5,605.07
Markdale R.P.D.—Artemesia, Euphrasia, Glenelg and Holland twps	*28,470.47	14,109.17	14,361.30	1,425.85

NOTE.—Items marked * include portions of transmission lines aggregating $10,279.48 used for purposes of rural power districts.

District, the revenues collected from (or charged to) customers within each District,
the Municipalities comprising certain other Districts upon ascertainment (by
in the year ending October 31, 1933.

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,766.49	933.87	764.03	764.03	203.77	8,118.90	8,432.03	313.13	....
46.32	105.96	85.96	85.96	23.12	521.55	625.92	104.37	....
4,425.21	1,477.91	1,189.68	1,189.68	322.48	12,312.75	9,660.41	....	2,652.34
4,633.04	2,891.15	2,396.47	2,396.47	630.87	22,828.97	21,185.61	....	1,643.36
1,659.35	1,632.80	1,353.42	1,353.42	356.29	8,907.30	4,737.17	....	4,170.13
3,128.55	1,491.80	1,236.55	1,236.55	325.52	11,935.89	12,255.92	320.03	....
3,539.31	1,339.19	1,100.29	1,100.29	292.22	13,289.83	10,568.20	....	2,721.63
89.56	72.67	60.24	60.24	15.86	553.67	327.95	....	225.72
1,216.08	907.95	746.00	746.00	198.13	6,340.78	4,401.56	....	1,939.22
2,204.34	1,232.88	958.88	958.88	269.03	10,401.53	10,633.12	231.59	....
239.26	88.98	73.76	73.76	19.42	1,178.32	946.73	....	231.59
709.39	543.73	386.01	386.01	118.65	3,712.32	4,085.51	373.19	....
123.86	34.09	28.26	28.26	7.44	844.31	789.36	....	54.95
5.93	16.98	14.07	14.07	3.70	94.60	144.54	49.94	....
1,305.48	1,133.15	912.73	912.73	247.27	6,978.24	4,868.29	....	2,109.95
1,572.80	963.95	793.69	793.69	210.34	6,828.35	6,595.87	....	232.48
271.15	135.80	105.09	105.09	29.63	977.46	826.26	....	151.20
256.73	113.22	93.85	93.85	24.70	1,319.02	1,143.58	....	175.44
1,408.31	1,068.00	885.26	885.26	233.05	6,273.34	5,247.27	....	1,026.07
21.78	44.96	37.34	37.34	9.83	151.25	80.25	....	71.00
1,173.28	970.05	804.07	804.07	211.67	5,443.09	3,674.81	....	1,768.28
3,566.40	1,778.82	1,474.46	1,474.46	388.15	17,239.75	16,796.94	....	442.81
32.58	15.19	12.74	12.74	3.35	76.60	51.22	....	25.38
2,903.13	1,813.04	1,502.82	1,502.82	395.62	13,722.50	14,667.67	945.17	....
1,051.22	659.95	541.98	541.98	144.01	4,364.99	3,567.20	....	797.79

GEORGIAN BAY SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged to annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			
	Total capital cost	Government grant	Commission's investment	Cost of power delivered to districts as shown in "cost of power" table preceding
	$ c.	$ c.	$ c.	$ c.
Meaford R.P.D.—St. Vincent twp	1,971.26	985.63	985.63	....
Medonte R.P.D.—Baxter and Tay twps	17,479.52	8,739.76	8,739.76	807.68
Midland R.P.D.—Tay and Tiny twps	17,075.95	8,537.97	8,537.98	817.42
Neaustadt R.P.D.—Bentinck twp	1,041.69	520.84	520.85	....
Nottawasaga R.P.D.—Nottawasaga twp	16,816.07	8,408.04	8,408.03	1,140.69
Orangeville R.P.D.—Amaranth, Caledon, Erin and Garafraxa E. twps	33,300.97	16,650.49	16,650.48	1,576.01
Owen Sound R.P.D.—Derby, Sarawak and Sydenham twps	12,768.57	6,384.29	6,384.28	822.50
Port Perry R.P.D.—Cartwright, Manvers, Reach and Scugog twps	73,453.44	36,726.72	36,726.72	5,888.63
Ripley R.P.D.—Huron and Kinloss twps	*8,511.30	3,984.83	4,526.47	569.98
Sauble R.P.D.—Amabel and Keppel twps	4,338.83	2,169.42	2,169.41	1,086.92
Shelburne R.P.D.—Amaranth, Melancthon and Mulmur twps	26,230.20	12,497.02	13,733.18	1,394.72
Sparrow Lake R.P.D.—Matchedash, Morrison, Orillia N. and Rama twps	75,845.16	37,922.58	37,922.58	3,490.60
Tara R.P.D.—Amabel, Arran, Derby and Keppel twps	30,321.32	15,160.66	15,160.66	2,331.48
Thornton R.P.D.—Essa twp	9,479.12	4,739.56	4,739.56	932.04
Utterson R.P.D.—Cardwell, Humphrey, Stephenson, Watt and Wood and Medora twps.	*39,684.03	19,047.37	20,636.66	2,386.58
Uxbridge R.P.D.—Brock, Georgina, Reach, Scott and Uxbridge twps	84,696.52	42,348.26	42,348.26	5,151.80
Wasaga Beach R.P.D.—Flos, Nottawasaga and Sunnidale twps	57,516.97	....	57,516.97	6,707.60
Wroxeter R.P.D.—Howick, Morris and Turnberry twps	74,612.45	35,925.80	38,686.65	6,222.76
	1,503,485.58	713,951.21	789,534.37	
Non-operating capital	2,872.74	1,436.37	1,436.37	
Totals	1,506,358.32	715,387.58	790,970.74	107,127.66

NOTE.—Items marked * include portions of transmission lines aggregating $10,279.48 used for purposes of rural power districts.

RURAL POWER DISTRICTS *G.B.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District,
the Municipalities comprising certain other Districts upon ascertainment (by
in the year ending October 31, 1933.

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
7.45	46.99	39.12	39.12	10.30	142.98	81.20	....	61.78
462.46	411.18	340.83	340.83	89.72	2,452.70	1,747.20	....	705.50
412.82	411.52	341.11	341.11	89.80	2,413.78	1,975.37	....	438.41
3.97	24.87	20.75	20.75	5.46	75.80	29.47	....	46.33
664.94	404.21	335.05	335.05	88.20	2,968.14	3,188.29	220.15	....
815.57	802.25	664.98	664.98	175.06	4,698.85	3,622.89	....	1,075.96
651.80	165.15	136.89	136.89	36.04	1,949.27	1,382.78	....	566.49
2,434.95	1,722.69	1,427.93	1,427.93	375.90	13,278.03	11,988.36	....	1,289.67
186.69	209.89	163.14	163.14	45.80	1,338.64	758.98	....	579.66
523.19	100.14	83.00	83.00	21.85	1,898.10	1,356.15	....	541.95
1,302.81	656.13	519.14	519.14	143.18	4,535.12	2,800.73	....	1,734.39
2,144.95	1,788.64	1,482.60	1,482.60	390.30	10,779.69	9,701.29	....	1,078.40
1,689.70	720.06	596.86	596.86	157.12	6,092.08	5,465.83	....	626.25
112.25	228.71	189.58	189.58	49.90	1,702.06	1,272.16	....	429.90
1,348.43	923.64	733.86	733.86	201.54	6,327.91	6,343.24	15.33	....
2,065.89	2,029.14	1,681.95	1,681.95	442.77	13,053.50	10,006.50	....	3,047.00
2,346.97	2,629.08	1,089.62	1,089.62	573.68	14,436.57	14,958.31	521.74	....
2,320.33	1,859.81	1,486.38	1,486.38	405.82	13,781.48	13,407.34	....	374.14
56,844.72	36,600.19	28,890.44	28,890.44	7,986.56	266,340.01	236,399.48	3,094.64	33,035.17

GEORGIAN BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Alliston	June, 1918	1,326.03			1,326.03
Arthur	Dec., 1916		1,550.64		
Barrie	April, 1913		10,637.05	567.52	
Beaverton	Nov., 1914	570.36			570.36
Beeton	Aug., 1918	581.97			581.97
Bradford	Oct., 1918	588.52		8.83	597.35
Brechin	Jan., 1915	237.63			237.63
Cannington	Nov., 1914	480.20			480.20
Chatsworth	Dec., 1915		92.27	92.27	
Chesley	July, 1916	2,305.35			2,305.35
Coldwater	Mar., 1913	538.24			538.24
Collingwood	Mar., 1913	455.16		385.18	840.34
Cookstown	May, 1918	259.75			259.75
Creemore	Nov., 1914	527.83			527.83
Dundalk	Dec., 1915		93.64		
Durham	Dec., 1915		1,758.80	1,758.80	
Elmvale	June, 1913	438.90			438.90
Elmwood	April, 1918	646.92			646.92
Flesherton	Dec., 1915		211.08	211.08	
Grand Valley	Dec., 1916		741.69	741.69	
Gravenhurst	Nov., 1915		2,310.44		
Hanover	Sept., 1916		750.90	750.90	
Holstein	May, 1916		3,035.43	609.85	
Huntsville	Sept., 1916	1,918.30			1,918.30
Kincardine	Mar., 1921	2,255.17			2,255.17
Kirkfield	June, 1920		209.61		
Lucknow	Jan., 1921	688.78			688.78
Markdale	Mar., 1916		66.59	66.59	
Meaford	Jan., 1924	1,018.49			1,018.49
Midland	July, 1911		5,560.22	5,560.22	
Mildmay	Dec., 1932				
Mount Forest	Dec., 1915		2,673.32	2,673.32	
Neustadt	Dec., 1918		4,547.61		
Orangeville	July, 1916	69.42			69.42
Owen Sound	Dec., 1915	342.62			342.62
Paisley	Sept., 1923		1,110.25	1,110.25	
Penetanguishene	July, 1911	402.13			402.13
Port Elgin	Mar., 1931	308.38			308.38
Port McNicoll	Jan., 1915		516.48		
Port Perry	Sept., 1922		238.80	238.80	
Priceville	Mar., 1920		20.20	20.20	
Ripley	Jan., 1921	146.87			146.87
Rosseau	July, 1931	275.51			275.51
Shelburne	July, 1916	82.22			82.22
Southampton	Feb., 1931	486.70			486.70

SYSTEM *G.B.—CREDIT OR CHARGE*

supplied to it to October 31, 1932; the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933.

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
13.51		1,546.06		1,559.57	
	62.03	596.08			1,016.59
	409.81	7,126.16			3,353.18
7.06		207.36		214.42	
8.29		927.47		935.76	
9.76		1,336.32		1,346.08	
3.93		322.64		326.57	
6.79		466.76		473.55	
	1.31		80.18		81.49
32.37		1,870.47		1,902.84	
7.91			371.13		363.22
11.33		509.59		520.92	
3.59		465.90		469.49	
7.00			28.37		21.37
	3.75	571.75		474.36	
	33.92	1,354.58		1,320.66	
7.86		533.23		541.09	
8.71		536.74		545.45	
	3.77	289.58		285.81	
	11.95	550.17		538.22	
	92.42	1,343.89			1,058.97
	11.36	2,223.89		2,212.53	
	110.88		378.37		2,914.83
25.65			2,807.25		2,781.60
30.18		3,636.99		3,667.17	
	8.38		30.03		248.02
9.59		1,043.64		1,053.23	
	0.88	533.08		532.20	
13.73		1,085.96		1,099.69	
	83.48	7,031.72		6,948.24	
		915.32		915.32	
	36.03	1,394.51		1,358.48	
	181.90		1,195.50		5,925.01
1.15		829.50		830.65	
4.99		10,567.82		10,572.81	
	22.51	270.30		247.79	
5.91		2,002.80		2,008.71	
4.36		317.49		321.85	
	20.66	304.28			232.86
	3.38	219.24		215.86	
	0.38	350.05		349.67	
1.95		374.05		376.00	
3.65		747.85		751.50	
1.05			107.03		105.98
6.35		459.73		466.08	

GEORGIAN BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Stayner	Oct., 1913	473.62	....	....	473.62
Sunderland	Nov., 1914	....	233.87	233.87	....
Tara	Feb., 1918	393.59	....	....	393.59
Teeswater	Dec., 1920	....	208.81	....	....
Thornton	Nov., 1918	273.64	....	....	273.64
Tottenham	Oct., 1918	....	280.14	282.48	2.34
Uxbridge	Sept., 1922	349.36	....	....	349.36
Victoria Harbour	July, 1914	74.58	....	....	74.58
Walkerton	Feb., 1931	361.19	....	....	361.19
Waubaushene	Dec., 1914	213.14	....	....	213.14
Wiarton	May. 1931	617.71	....	....	617.71
Windermere	June, 1930	764.13	....	....	764.13
Wingham	Dec., 1920	116.38	....	....	116.38
Woodville	Nov., 1914	36.72	....	....	36.72
RURAL POWER DISTRICT*					
Alliston R.P.D	Nov. 1929	1,565.32	....	....	80.00
Arthur R.P.D	Dec., 1929	....	124.67	....	....
Bala R.P.D	Jan., 1930	....	3,160.26	....	120.00
Barrie R.P.D	Aug., 1923	....	4,129.32	....	130.00
Baysville R.P.D	July, 1932	....	1,639.98	....	....
Beaumaris R.P.D	June, 1928	....	1,658.96	....	30.00
Beaverton R.P.D	Aug., 1930	....	3,701.19	....	120.00
Beeton R.P.D	Sept., 1926	....	178.94	....	....
Bradford R.P.D	Aug., 1929	....	1,921.23	....	175.86
Bruce R.P.D	Oct., 1931	....	944 11	....	20.00
Buckskin R.P.D	July, 1928	....	822.76	....	30.00
Cannington R.P.D	May, 1924	1,742.48	....	....	....
Chatsworth R.P.D	Dec., 1928	325.63	....	....	90.00
Cookstown R.P.D	Dec., 1930	42.08	....	....	....
Creemore R.P.D	Dec., 1930	....	2,508.92	....	140.00
Elmvale R.P.D	Jan., 1924	....	389.01	....	40.00
Flesherton R.P.D	Feb., 1922	....	837.92	....	....
Gravenhurst R.P.D	June, 1929	230.64	....	....	....
Hawkestone R.P.D	Aug., 1930	....	2,665.71	....	....
Holstein R.P.D	Mar., 1929	....	79.96	....	....
Huntsville R.P.D	Aug., 1931	....	2,477.26	....	....
Innisfil R.P.D	Feb., 1928	....	3,071.06	....	138.30
Lucknow R.P.D	Feb., 1924	....	74.66	....	....
Mariposa R.P.D	Sept., 1923	5,077.42	....	....	40.00
Markdale R.P.D	July, 1924	....	1,363.18	1.36	....
Meaford R.P.D	Oct., 1928	....	133.04	....	....
Medonte R.P.D	July, 1930	....	1,113.53	....	50.00
Midland R.P.D	Nov., 1930	....	892.28	....	80.00
Neustadt R.P.D	Nov., 1926	....	97.84	....	....
Nottawasaga R.P.D	Jan., 1922	1,040.95	....	....	....

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

SYSTEM *G.B.—CREDIT OR CHARGE*

supplied to it to October 31, 1932; the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933.

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
6.70		464.21		470.91	
	3.51	203.68		200.17	
6.04		605.86		611.90	
	8.35	404.59		187.43	
2.79		268.50		271.29	
	7.61	790.67		783.06	
5.78		526.80		532.58	
1.10		354.90		356.00	
5.70		1,518.33		1,524.03	
3.73		91.44		95.17	
8.26			339.38		331.12
10.13		750.66		760.79	
1.58		299.95		301.53	
0.52		167.25		167.77	
62.61		313.13		1,861.06	
	4.99	104.37			25.29
	126.41		2,652.34		6,059.01
	165.17		1,643.36		6,067.85
	65.60		4,170.13		5,875.71
	66.36	320.03			1,435.29
	148.05		2,721.63		6,690.87
	7.16		225.72		411.82
	77.78		1,939.22		4,114.09
	37.76	231.59			770.28
	32.91		231.59		1,117.26
69.70		373.19		2,185.37	
13.03			54.95	193.71	
1.68		49.94		93.70	
	100.36		2,109.95		4,859.23
	15.56		232.48		677.05
	33.52		151.20		1,022.64
9.23			175.44	64.43	
	106.63		1,026.07		3,798.41
	3.20		71.00		154.16
	99.09		1,768.28		4,344.63
	122.84		442.81		3,775.01
	2.99		25.38		103.03
203.10		945.17		6,185.69	
	54.49		797.79		2,214.10
	5.32		61.78		200.14
	44.54		705.50		1,913.57
	35.69		438.41		1,446.38
	3.91		46.33		148.08
41.64		220.15		1,302.74	

GEORGIAN BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Rural power district	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Orangeville R.P.D.	Aug., 1927	....	3,467.39	....	....
Owen Sound R.P.D.	Mar., 1931	....	91.36	....	....
Port Perry R.P.D.	Dec., 1922	....	3,644.57	....	250.00
Ripley R.P.D.	Feb., 1922	....	1,118.90	....	20.00
Sauble R.P.D.	Oct., 1931	....	197.64	....	40.00
Shelburne R.P.D.	Feb., 1926	....	1,867.13	....	180.00
Sparrow Lake R.P.D.	Oct., 1925	997.46	....	....	130.48
Tara R.P.D.	Jan., 1925	....	147.73	....	20.00
Thornton R.P.D.	Aug., 1930	....	753.53	....	140.00
Utterson R.P.D.	June, 1930	....	1,248.10	....	110.00
Uxbridge R.P.D.	Sept., 1925	....	6,768.20	....	210.00
Wasaga Beach R.P.D.	July, 1923	10,643.48	....	....	361.43
Wroxeter R.P.D.	Feb., 1929	....	4,366.12	....	30.00
Totals	....	42,290.97	94,504.30	15,313.21	23,797.93

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

GEORGIAN BAY SYSTEM

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932	$1,431,214.29	
Deduct:		
Expenditures to October 31, 1932	133,155.81	
Balance brought forward October 31, 1932		$1,298,058.48
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them	$90,844.31	
Amount included in costs of distribution of power within rural power districts	28,890.44	
Provision against equipment employed in respect of contracts with private companies which purchased power, and against equipment in local distribution systems	8,376.91	
Provision for renewals on transmission lines transferred	3,531.40	
Interest at 4% per annum on monthly balances at the credit of the account	51,922.34	
		183,565.40
		$1,481,623.88
Deduct:		
Expenditures during the year ending October 31, 1933		27,403.29
Balance carried forward October 31, 1933		$1,454,220.59

supplied to it to October 31, 1932; the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933.

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	138.70	....	1,075.96	....	4,682.05
....	3.65	....	566.49	....	661.50
....	145.78	....	1,289.67	....	5,330.02
....	44.76	....	579.66	....	1,763.32
....	7.91	....	541.95	....	787.50
....	74.69	....	1,734.39	....	3,856.21
39.87	....	....	1,078.40	....	171.55
....	5.91	....	626.25	....	799.89
....	30.14	....	429.90	....	1,353.57
....	49.92	15.33	....	....	1,392.69
....	270.73	....	3,047.00	....	10,295.93
424.35	....	521.74	....	11,228.14	....
....	174.64	....	374.14	....	4,944.90
1,154.21	3,425.43	64,404.45	38,372.41	74,760.04	111,697.27

GEORGIAN BAY SYSTEM

Reserve for Obsolescence and Contingencies—October 31, 1933

Balance brought forward October 31, 1932..................................		$367,197.47
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them...............	$25,487.31	
Amounts included in the costs of distribution of power within rural power districts....................................	28,890.44	
Provision against equipment employed in respect of contracts with private companies which purchased power and against local distribution systems................................	2,770.98	
Share of profits realized in respect of the sale of certain of the Commission's investment securities.....................	1,304.69	
Interest at 4% per annum on monthly balances at the credit of the account..	14,687.90	
		73,141.32
		$440,338.79
Deduct:		
Contingencies met with during the year ending October 31, 1933..	$1,311.20	
Commission's share of American exchange paid during the year by the Province of Ontario on the transfer of funds to New York to meet capital retirements.......................	9,191.27	
		10,502.47
Balance carried forward October 31, 1933..................................		$429,836.32

GEORGIAN BAY SYSTEM *G.B.—SINKING FUND*

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder, as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1933

Municipality	Period of years ending Oct. 31, 1933	Amount	Municipality	Period of years ending Oct. 31, 1933	Amount
		$ c.			$ c.
Alliston	10 years	11,295.94	Walkerton	3 years	3,921.66
Arthur	12 “	10,746.86	Waubaushene	14 “	2,070.83
Barrie	15 “	73,212.70			
Beaverton	14 “	12,230.73	Wiarton	3 “	3,047.88
Beeton	10 “	8,727.20	Windermere	4 “	722.32
			Wingham	9 “	18,287.75
Bradford	10 “	9,628.32	Woodville	14 “	6,229.56
Brechin	14 “	4,761.23			
Cannington	14 “	9,119.57	RURAL POWER DISTRICT*		
Chatsworth	13 “	2,277.29			
Chesley	12 “	18,843.00	**Alliston** R.P.D	4 years	1,976.31
			Arthur R.P.D	4 “	130.92
Coldwater	15 “	7,205.13	**Bala** R.P.D	4 “	2,020.77
Collingwood	15 “	80,932.71	**Barrie** R.P.D	11 “	6,471.39
Cookstown	10 “	2,675.43	**Baysville** R.P.D	2 “	738.83
Creemore	14 “	6,686.98			
Dundalk	13 “	6,385.69	**Beaumaris** R.P.D	6 “	3,490.11
			Beaverton R.P.D	4 “	2,624.49
Durham	13 “	17,853.68	**Beeton** R.P.D	8 “	80.71
Elmvale	15 “	8,963.33	**Bradford** R.P.D	5 “	952.33
Elmwood	10 “	2,053.66	**Bruce** R.P.D	3 “	1,467.36
Flesherton	13 “	3,628.75			
Grand Valley	12 “	6,573.09	**Buckskin** R.P.D	6 “	504.84
			Cannington R.P.D	10 “	2,739.29
Gravenhurst	13 “	11,934.82	**Chatsworth** R.P.D	5 “	261.42
Hanover	12 “	45,822.14	**Cookstown** R.P.D	3 “	21.98
Holstein	12 “	2,093.02	**Creemore** R.P.D	3 “	1,032.29
Huntsville	12 “	30,684.78			
Kincardine	9 “	18,529.52	**Elmvale** R.P.D	10 “	1,852.01
			Flesherton R.P.D	12 “	481.84
Kirkfield	9 “	1,744.11	**Gravenhurst** R.P.D	5 “	533.05
Lucknow	9 “	9,186.02	**Hawkestone** R.P.D	4 “	836.87
Markdale	12 “	5,032.19	**Holstein** R.P.D	5 “	23.86
Meaford	9 “	12,735.65			
Midland	15 “	125,095.10	**Huntsville** R.P.D	3 “	729.67
			Innisfil R.P.D	6 “	4,786.58
Mildmay	1 “	226.15	**Lucknow** R.P.D	8 “	29.42
Mount Forest	13 “	16,380.02	**Mariposa** R.P.D	11 “	6,744.21
Neustadt	10 “	5,502.73	**Markdale** R.P.D	10 “	718.05
Orangeville	12 “	21,353.58			
Owen Sound	13 “	101,536.38	**Meaford** R.P.D	5 “	41.77
			Medonte R.P.D	4 “	398.20
Paisley	9 “	5,273.82	**Midland** R.P.D	3 “	469.16
Penetanguishene	17 “	36,078.52	**Neustadt** R.P.D	7 “	28.79
Port Elgin	3 “	1,938.03	**Nottawasaga** R.P.D	12 “	2,379.25
Port McNicoll	14 “	3,328.98			
Port Perry	9 “	7,789.28	**Orangeville** R.P.D	7 “	1,492.80
			Owen Sound R.P.D	3 “	191.42
Priceville	9 “	838.98	**Port Perry** R.P.D	11 “	3,584.37
Ripley	9 “	3,882.39	**Ripley** R.P.D	8 “	308.03
Rosseau	3 “	790.05	**Sauble** R.P.D	3 “	218.00
Shelburne	12 “	10,059.03			
Southampton	3 “	1,993.07	**Shelburne** R.P.D	8 “	814.24
			Sparrow Lake R.P.D	9 “	3,903.94
Stayner	15 “	8,696.77	**Tara** R.P.D	9 “	1,948.59
Sunderland	14 “	6,183.71	**Thornton** R.P.D	4 “	413.74
Tara	10 “	4,661.32	**Utterson** R.P.D	4 “	1,291.77
Teeswater	9 “	6,444.10			
Thornton	10 “	1,777.80	**Uxbridge** R.P.D	9 “	3,720.84
			Wasaga Beach R.P.D	11 “	7,276.10
Tottenham	10 “	5,592.84	**Wroxeter** R.P.D	5 “	3,723.65
Uxbridge	9 “	8,297.67			
Victoria Harbour	14 “	3,642.44	Total		936,659.56

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*For townships included in rural power districts see “Cost of Power” and “Rural Operating”

GEORGIAN BAY SYSTEM

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932		$816,185.21
Provided in the year ending October 31, 1933:		
By charges included in the cost of power delivered to municipalities and rural power districts	$73,332.45	
By charges included in the costs of distribution of power within rural power districts	7,986.56	
By charges against contracts with private companies which purchased power and local distribution systems	6,507.93	
Interest at 4% per annum on the amount standing at the credit of the reserve accounts	32,647.41	
		120,474.35
Total		$936,659.56

GEORGIAN BAY SYSTEM—RURAL LINES

Statement showing Interest, Sinking Fund, Renewals and Contingencies charged by the Commission to the Municipalities which operate the respective rural lines for the year ending October 31, 1933

Operated by	Capital cost	Interest	Sinking fund	Renewals	Contingencies	Total interest, sinking fund, renewals and contingencies charged
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Brechin	922.02	48.22	16.60	18.44	9.22	92.48
Flesherton	1,885.41	105.77	33.94	37.71	18.85	196.27
Totals	2,807.43	153.99	50.54	56.15	28.07	288.75

Statement showing the total Sinking Fund paid in respect of each line, together with interest allowed thereon to October 31, 1933

Lines operated by	Period of years ending October 31, 1933	Amount
		$ c.
Brechin	15 years	303.80
Flesherton	16 "	542.61
Total		846.41

Reserve for Sinking Fund

Total provision for sinking fund to October 31, 1932		$765.26
Provided in year ending October 31, 1933—		
By charges against municipalities which operate the lines	$50.54	
Interest at 4% per annum on amounts standing at the credit of the reserve accounts	30.61	
		81.15
Total		$846.41

GEORGIAN BAY SYSTEM—RURAL LINES

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932		$443.27
Added during the year ending October 31, 1933:		
By charges against the municipalities which operate the lines	$56.15	
Interest at 4% per annum on the monthly balances at the credit of the account	17.73	
		73.88
Balance carried forward October 31, 1933		$517.15

EASTERN ONTARIO

Operating Account for Year

Costs of operation as provided under the terms of the Power Commission Act

Power purchased		$777,050.62
Costs of operation and maintenance, including the proportion of administrative expenses chargeable to the operation of the system:		
Generation, transmission and distribution equipment	$634,412.70	
Rural power districts	121,212.84	
Water heater costs written off in year to extent of revenue available from water heater loads	5,978.03	
		761,603.57
Interest (including exchange thereon) on capital investment in:		
Generation, transmission and distribution equipment	$817,089.21	
Rural power districts	77,164.46	
		894,253.67
Provision for renewals of:		
Generation, transmission and distribution equipment	$164,867.11	
Rural power districts	62,925.98	
		227,793.09
Provision for obsolescence and contingencies in respect of:		
Generation, transmission and distribution equipment	$51,725.63	
Rural power districts	31,462.99	
		83,188.62
Provision for sinking funds:		
By charges included in the cost of power delivered to municipalities and rural power districts	$110,238.06	
By charges against contracts with private companies which purchased power and local distribution systems	45,928.35	
By charges included in the cost of distribution of power within rural power districts	16,863.37	
		173,029.78
		$2,916,919.35

GEORGIAN BAY SYSTEM—RURAL LINES

Reserve for Obsolescence and Contingencies—October 31, 1933

Balance brought forward October 31, 1932		$186.82
Added during the year ending October 31, 1933:		
By charges against the municipalities which operate the lines	$28.07	
Interest at 4% per annum on the monthly balances at the credit of the account	7.47	
		35.54
Balance carried forward October 31, 1933		$222.36

SYSTEM

Ending October 31, 1933

REVENUE FOR PERIOD

Collected from municipalities under "Cost" contracts at interim monthly rates	$1,859,103.83	
Collected from customers in rural power districts	470,228.73	
Power sold to private companies	512,671.12	
Collected from customers in local electric distribution systems	23,922.25	
Power supplied to pulp mill at Campbellford	38,785.36	
Collected from customers of the gas works	15,738.90	
		$2,920,450.19
Add:		
Amounts due by certain municipalities, being the difference between the sums paid and the cost of power supplied to them in the year	$6,720.97	
Amounts due by municipalities comprising certain rural power districts, being the difference between the revenue collected from customers therein and the cost of power supplied them in the year	38,276.43	
		44,997.40
		$2,965,447.59
Deduct:		
Amounts collected from certain municipalities in excess of the sums required to be paid by them for power supplied in the year	$41,852.39	
Amounts collected from customers in certain rural power districts in excess of the cost of power delivered thereto	5,394.21	
		47,246.60
Revenue		$2,918,200.99
Deduct:		
Amount transferred to the credit of obsolescence and contingency reserve, which amount comprises:		
Profit from power sold to customers on local electric distribution systems owned by the Commission	$3,453.91	
Shortage on operation of local gas works	2,172.27	
		1,281.64
		$2,916,919.35

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under the received by the Commission from each Municipality on account of such cost; pality upon ascertainment (by annual adjustment) of the actual cost

Municipality	Interim rate per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Alexandria	64.00	66.00	93,249.45	194.0	1,551.47	3,041.51	4,396.16
Apple Hill	60.00	54.00	11,365.56	29.6	236.72	469.12	527.49
Athens	55.00	63.00	32,937.95	83.7	669.37	1,108.53	1,577.87
Bath	105.00	95.00	18,097.18	26.9	215.13	335.52	872.62
Belleville	35.00	38.00	765,820.34	3,459.5	27,666.63	28,857.24	36,820 73
Water heater load	.....	.....	.....	20.0	.....	*728.94	.....
Bloomfield	60 00	61.00	28,414.26	69.4	555.01	1,106.30	1,360.51
Bowmanville	37.50	41.50	385,299.03	1,513.7	12,105.50	15,594.05	18,658.32
Water heater load	.....	.....	.....	7.2	.....	*296.57	.....
Brighton	42.50	46.00	62,762.52	242.7	1,940.94	2,595.64	3,013.26
Water heater load	.....	.....	.....	0.7	.....	*29.29	.....
Brockville	31.50	34.00	425,107.69	2,232.0	17,849.95	15,375.35	20,086.28
Cardinal	37.50	40.00	28,893.29	131.6	1,052 44	1,639.30	1,395.94
Water heater load	.....	.....	.....	1.5	.....	*62.48	.....
Carleton Place	35.00	37.00	231,514.34	1,000.7	8,002.89	7,185.84	10,986.25
Water heater load	.....	.....	.....	8.3	.....	*307.64	.....
Chesterville	44.50	44.00	50,683.16	189.1	1,512.28	1,995.89	2,346.13
Cobourg	37.50	41.00	323,055.45	1,325.3	10,598.81	14,511.15	15,594.73
Water heater load	.....	.....	.....	4.7	.....	*192.26	.....
Colborne	39.79	39.79	24,666.09	92.2	737.35	820.20	1,195.66
Deseronto	54 00	54.50	46,614.35	120.2	961.27	2,102.92	2,245.82
Water heater load	.....	.....	.....	0.5	.....	*29.69	.....
Finch	67 00	65.00	17,875.38	40.4	323.09	748.69	854.03
Water heater load	.....	.....	.....	0.1	.....	*6.55	.....
Hastings	55.00	55.00	24,415.41	66.9	535.02	726.83	1,178.48
Havelock	47 00	55.00	52,952.26	143.4	1,146.81	1,757.57	2,526.85
Kemptville	42.50	42.50	71,820.88	253.9	2,030.51	1,955.67	3,420.02
Lakefield	46.00	53.50	67,457.30	206.2	1,649.04	2,278.47	3,231.60
Lanark	50 00	50.00	22,474.12	67.1	536.62	793.12	1,070.03
Lancaster	97 00	97.00	28,963.67	37.6	300.70	607.69	1,372.21
Lindsay	42.00	44 00	424,938.79	1,590.0	12,715.69	16,964.50	20,400.90
Water heater load	.....	.....	.....	4.6	.....	*195.33	.....
Madoc	49.00	50.00	42,060.23	139.3	1,114.02	2,045.55	2,022.58
Marmora	49.00	53.00	26,033.84	83.0	663 78	1,221.81	1,248.65
Water heater load	.....	.....	.....	0.1	.....	*5.04	.....
Martintown	55.00	57.00	6,345.15	21.3	170.34	343.77	300.65
Maxville	75.00	62.00	34,294.09	76.7	613.39	1,344.75	1,610.49
Napanee	37.00	40.00	223,511.72	941.0	7,525.45	8,945 65	10,816.85
Water heater load	.....	.....	.....	5.1	.....	*199.17	.....
Norwood	41.00	41.00	24,355.74	93.3	746.15	1,077.98	1,164.65
Water heater load	.....	.....	.....	0.4	.....	*17.16	.....
Oshawa	38.00	41 00	2,073,605.71	7,946.8	63,552.87	72,423.46	99,827.38
Water heater load	.....	.....	.....	17.4	.....	*704.08	.....

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *E.O.—COST OF POWER*

Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Munici- of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,570.30	292.21	960.27	877.00	12,688.92	12,999.67	310.75	....
178.81	41.74	113.81	133.81	1,701.50	1,656.25	....	45.25
532.99	108.34	337.19	378.38	4,712.67	5,245.41	532.74	....
294.03	52.54	187.57	121.61	2,079.02	2,649.47	570.45	....
6,951.42	2,475.94	7,678.34	15,639.13	126,089.43	132,971.76	6,153.39	....
....	....	....	....	728.94			
397.77	85.91	291.76	313.73	4,110.99	4,300.89	189.90	....
4,041.35	1,214.84	3,893.03	6,842.88	62,349.97	63,254.51	607.97	....
....	....	....	....	296.57			
663.03	211.70	632.06	1,097.16	10,153.79	11,234.65	1,051.57	....
....	....	....	....	29.29			
5,281.94	1,614.86	4,230.60	10,090.05	74,529.03	76,366.95	1,837.92	....
387.33	121.74	289.79	594.92	5,481.46	5,364.51	....	179.43
....	....	....	....	62.48			
3,199.48	864.50	2,328.16	4,523.80	37,090.92	37,782.98	384.42	....
....	....	....	....	307.64			
736.90	184.69	513.03	854.85	8,143.77	8,495.78	352.01	....
3,231.43	1,042.19	3,244.24	5,991.19	54,213.74	54,744.80	338.80	....
....	....	....	....	192.26			
272.10	84.69	249.53	416.80	3,776.33	3,748.24	....	28.09
636.51	169.45	477.49	543.38	7,136.84	6,691.54	....	474.99
....	....	....	....	29.69			
296.97	58.20	183.81	182.63	2,647.42	2,700.05	46.08	....
....	....	....	....	6.55			
324.43	77.98	249.72	302.43	3,394.89	3,747.29	352.40	....
705.24	168.40	541.37	648.26	7,494.50	7,732.17	237.67	....
1,071.35	255.03	728.44	1,147.79	10,608.81	11,004.30	395.49	....
842.27	207.05	685.79	932.15	9,826.37	10,962.98	1,136.61	....
352.35	80.55	229.50	303.34	3,365.51	3,424.93	59.42	....
521.04	86.60	300.85	169.78	3,358.87	3,725.56	366.69	....
4,640.28	1,309.31	4,299.08	7,187.81	67,517.57	70,937.75	3,224.85	....
....	....	....	....	195.33			
500.89	136.14	427.10	629.72	6,876.00	7,068.35	192.35	....
318.27	92.96	264.96	375.21	4,185.64	4,422.18	231.50	....
....	....	....	....	5.04			
95.55	23.78	64.47	96.29	1,094.85	1,223.94	129.09	....
564.28	112.03	349.07	346.73	4,940.74	5,023.64	82.90	....
2,214.78	731.72	2,260.73	4,253.91	36,749.09	38,139.32	1,191.06	....
....	....	....	....	199.17			
260.48	84.98	246.17	421.77	4,002.18	3,916.36	....	102.98
....	....	....	....	17.16			
22,345.56	6,450.31	21,037.38	35,924.56	321,561.52	329,364.17	7,098.57	....
....	....	....	....	704.08			

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under the received by the Commission from each Municipality on account of such cost; pality upon ascertainment (by annual adjustment) of the actual cost

Municipality	Interim rate per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
	To Jan. 1 1933	To Oct. 31 1933				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.
Ottawa	24.00	26.90	700,975.10	5,430.4	48,011.85	29,891.82	33,941.03
Ottawa			964.71	18,883.0	207,712.99	145.69	46.49
Perth	35.00	35.00	227,089.50	1,107.3	8,855.40	7,227.15	10,822.48
Water heater load				3.8		*130.48	
Peterborough	32.00	32.00	1,201,849.18	5,781.8	46,238.73	37,170.97	57,681.53
Water heater load				48.1		*1,604.76	
Picton	50.00	50.00	266,394.59	772.8	6,180.31	7,551.22	12,785.14
Water heater load				6.9		*330.03	
Port Hope	41.50	43.20	259,812.38	1,067.7	8,538.71	12,322.92	12,500.31
Water heater load				3.1		*128.48	
Prescott	31.00	34.00	132,447.79	746.3	5,968.38	5,668.54	6,269.30
Water heater load				1.1		*36.37	
Richmond	55.00	55.00	19,282.81	48.8	390.27	729.08	928.64
Russell	65.00	66.00	19,603.61	44.3	354.28	752.42	930.39
Smiths Falls	30.00	32.00	251,667.22	1,421.3	11,366.55	9,066.70	11,911.17
Water heater load				11.2		*356.85	
Stirling	32.00	34.50	44,456.19	226.1	1,808.19	1,706.36	2,143.56
Water heater load				0.5		*16.81	
Trenton	28.50	32.20	502,048.94	2,699.5	21,588.68	15,473.23	24,349.05
Water heater load				4.3		*133.24	
Tweed	58.00	58.00	59,966.70	147.4	1,178.80	2,922.67	2,889.25
Warkworth	50.00	57.00	20,198.40	61.5	491.83	941.84	966.96
Wellington	46.00	49.00	52,293.59	165.2	1,321.15	1,794.05	2,512.74
Westport	92.84	85.00	38,563.79	61.9	495.03	1,005.75	1,859.91
Whitby	37.00	40.00	243,824.07	942.4	7,536.65	8,320.28	11,720.54
Water heater load				5.3		*211.55	
Williamsburg	43.00	41.00	30,088.99	155.5	1,243.58	1,477.64	1,423.98
Water heater load				0.4		*14.48	
Winchester	41.00	42.00	51,431.71	217.7	1,741.01	2,145.57	2,427.33
Water heater load				0.6		*24.05	
RURAL POWER DISTRICT							
Alexandria R.P.D.—Hawkesbury E. and Lochiel twps.			14,920.99	30.0	239.92	436.60	716.07
Arnprior R.P.D.—Fitzroy twp.					1,692.24		
Belleville R.P.D.—Huntingdon, Sidney, Thurlow and Tyendinaga twps.			66,210.36	293.9	2,350.40	2,375.19	3,174.12
Water heater load				0.3		*10.97	
Bowmanville R.P.D.— Darlington twp.			26,816.91	102.9	822.92	1,106.08	1,291.61
Water heater load				0.2		*8.42	
Brighton R. P. D.— Brighton, Cramahe and Murray twps.			5,896.11	22.8	182.34	222.21	282.68

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *E.O.—COST OF POWER*

Power Commission Act—of Power supplied to it by the Commission; the amount
and the amount remaining to be credited or charged to each Munici-
of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
6,203.16	2,969.88	6,784.69	24,548.87	152,351.30	150,880.41	....	1,470.89
18.73	4.75	10.16	....	207,938.81	207,938.81	....	....
2,968.15	873.66	2,269.89	5,005.70	38,022.43	39,688.78	1,535.87	....
....	....	....	....	130.48			
10,085.92	3,565.53	12,017.19	26,137.39	192,897.26	190,754.26	....	3,747.76
....	....	....	....	1,604.76			
3,440.16	792.78	2,720.77	3,493.54	36,963.92	39,785.88	2,491.93	....
....	....	....	....	330.03			
2,609.46	836.69	2,616.96	4,826.68	44,251.73	46,816.98	2,436.77	....
....	....	....	....	128.48			
1,569.48	518.26	1,310.02	3,373.75	24,677.73	25,501.08	786.98	....
....	....	....	....	36.37			
312.57	61.79	197.68	220.61	2,840.64	2,736.72	....	103.92
325.40	63.80	201.58	200.26	2,828.13	2,967.67	139.54	....
3,019.74	1,000.98	2,494.28	6,425.17	45,284.59	46,235.50	594.06	....
....	....	....	....	356.85			
344.05	134.20	443.14	1,022.11	7,601.61	7,874.16	255.74	....
....	....	....	....	16.81			
3,543.21	1,503.46	4,988.56	12,203.45	83,649.64	87,158.85	3,375.97	....
....	....	....	....	133.24			
836.12	178.41	615.17	666.34	9,286.76	8,719.10	....	567.66
252.83	65.05	205.29	278.02	3,201.82	3,489.94	288.12	....
643.54	163.39	532.92	746.81	7,714.60	8,157.14	442.54	....
676.87	127.28	399.29	279.83	4,843.96	5,449.65	605.69	....
2,596.91	715.57	2,466.35	4,260.24	37,616.54	38,191.19	363.10	....
....	....	....	....	211.55			
368.89	119.36	294.38	702.96	5,630.79	6,550.80	905.53	....
....	....	....	....	14.48			
712.17	198.51	517.78	984.14	8,726.51	9,306.51	555.95	....
....	....	....	....	24.05			
252.78	47.70	153.77	135.62	1,982.46	1,982.46	see page	247
....	....	....	....	1,692.24	1,692.24	"	"
614.23	216.15	664.71	1,328.61	10,723.41	10,734.38	"	"
....	....	....	....	10.97			
287.21	85.73	271.22	465.17	4,329.94	4,338.36	"	"
....	....	....	....	8.42			
62.27	19.89	59.38	103.07	931.84	931.84	....	....

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under the received by the Commission from each Municipality on account of such cost; pality upon ascertainment (by annual adjustment) of the actual cost

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Brockville R.P.D.—Augusta, Elizabethtown, Escott Front, Leeds and Lansdowne Front, Leeds and Lansdowne Rear, Yonge Front and Yonge and Escott Rear twps.	60,280.04	266.4	2,130.48	2,297.97	2,865.63
Water heater load		0.1		*3.84	
Campbellford R.P.D.—Rawdon and Seymour twps.	12,150.02	58.4	467.04	347.21	579.24
Carleton Place R.P.D.—Ramsay twp.			26.54		
Chesterville R.P.D.—Cambridge, Finch, Osnabruck, Russell, Williamsburg and Winchester twps.	57,288.75	179.1	1,432.32	1,630.24	2,736.98
Cobourg R.P.D.—Alnwick, Haldimand, Hamilton and Hope twps.	58,271.79	229.5	1,835.37	2,369.80	2,782.22
Water heater load		0.5		*20.49	
Colborne R.P.D.—Cramahe and Haldimand twps.	30,551.99	109.3	874.10	975.43	1,468.72
Fenelon Falls R.P.D.—Bexley, Fenelon, Laxton, Digby, Longford and Somerville twps.	12,745.30	39.1	312.69	493.73	614.14
Water heater load		0.2		*9.87	
Iroquois R.P.D.—Gower S., Matilda Mountain, Oxford, Williamsburg and Winchester twps.	54,160.94	360.4	2,882.22	2,048.18	2,607.30
Water heater load		0.1		*2.91	
Kemptville R.P.D.—Oxford twp.	5,595.83	18.6	148.75	263.77	269.59
Kingston R.P.D.—Bedford, Ernestown, Hinchinbrooke, Kingston, Leeds and Lansdowne Front, Loughbrough, Oso, Pittsburgh and Portland twps.	73,596.57	270.5	3,172.52	2,501.47	3,523.61
Water heater load		0.2		*9.19	
Lakefield R.P.D.—Burleigh and Anstruther, Douro, Harvey and Smith twps.	8,922.41	30.2	241.52	269.84	429.94
Lindsay R.P.D.—Fenelon, Ops and Verulam twps.	5,327.15	17.5	139.96	198.85	256.94
Martintown R.P.D.—Charlottenburg and Lancaster twps.	14,718.34	46.2	369.47	445.22	691.58
Water heater load		0.1		*4.65	
Maxville R.P.D.—Caledonia, Kenyon, Plantagenet N., Plantagenet S. and Roxborough twps.	60,233.29	140.9	1,126.82	1,844.23	2,851.53
Millbrook R.P.D.—Cavan, Manvers and Monoghan S. Twps.	12,329.22	36.9	295.10	479.47	586.42

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *E.O.—COST OF POWER*

**Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Munici-
of power supplied to it in the year ending October 31, 1933**

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
818.85	225.68	605.13	1,204.30	10,148.04	10,151.88	see page	247
....	....	....	....	3.84			
102.12	39.04	121.49	264.01	1,920.15	1,920.15	"	"
....	....	....	....	26.54	26.54	"	"
882.20	202.80	583.68	809.65	8,277.87	8,277.87	"	"
609.04	192.79	588.10	1,037.49	9,414.81	9,435.30	"	"
....	....	....	....	20.49			
346.31	106.78	309.62	494.11	4,575.07	4,575.07	"	"
160.09	43.19	129.89	176.76	1,930.49	1,940.36	"	"
....	....	....	....	9.87			
566.84	211.85	530.72	1,629.24	10,476.35	10,479.26	"	"
....	....	....	....	2.91			
85.15	20.36	56.89	84.08	928.59	928.59	"	"
812.37	236.10	743.59	1,222.83	12,212.49	12,221.68	"	"
....	....	....	....	9.19			
105.36	27.24	90.62	136.52	1,301.04	1,301.04	"	"
64.12	17.66	54.17	79.11	810.81	810.81	"	"
228.31	54.36	150.90	208.85	2,148.69	2,153.34	"	"
....	....	....	....	4.65			
982.94	204.51	611.24	636.95	8,258.22	8,258.22	"	"
154.00	42.28	124.38	166.81	1,848.46	1,848.46	"	"

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under the received by the Commission from each Municipality on account of such cost; pality upon ascertainment (by annual adjustment) of the actual cost

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Napanee R.P.D.—Camden E., Ernestown, Fredericksburg S., Fredericksburg N., Hungerford, Portland, Richmond, Sheffield and Tyendinaga twps.	56,741.54	197.8	1,581.87	1,700.28	2,728.10
Nepean R.P.D.—Clarence, Cumberland, Gloucester, Goulburn, Gower N., March, Nepean and Osgoode twps.	84,487.05	563.4	4,505.67	3,311.37	4,047.12
Newcastle R.P.D.—Clarke, Darlington and Manvers twps.	18,378.25	60.6	484.64	815.14	880.57
Water heater load	. . . .	0.3	. . . .	*9.65	. . . .
Norwood R.P.D.—Asphodel, Belmont and Methuen, Dummer and Seymour twps.	15,688.36	45.1	360.67	486.45	755.75
Omemee R.P.D.—Emily and Ops twps.	806.47	2.4	19.19	23.31	38.60
Oshawa R.P.D.—Darlington, Pickering, Uxbridge, Whitby and Whitby E. twps.	156,471.60	593.1	4,743.19	6,468.67	7,512.78
Water heater load	. . . .	1.1	. . . .	*46.47	. . . .
Perth R.P.D.—Bathurst, Burgess N., Elmsley N., and Elmsley S. twps.	6,395.65	29.8	268.56	350.97	308.97
Peterborough R.P.D.—Cavan, Douro, Monoghan N., Monoghan S., Otonabee and Smith twps.	94,027.87	427.9	3,422.04	3,408.95	4,493.58
Water heater load	. . . .	0.8	. . . .	*28.67	. . . .
Prescott R.P.D.—Augusta, Edwardsburg and Matilda twps.	19,194.09	99.4	988.34	983.65	894.28
Water heater load	. . . .	0.1	. . . .	*3.85	. . . .
Renfrew R.P.D.—Admaston and Horton twps.	. . . .	. . . .	612.16	. . . .	. . . .
Smiths Falls R.P.D.—Bastard and Burgess S., Crosby S., Kitley, Montague and Wolford twps.	38,131.44	145.2	1,161.20	1,008.56	1,825.04
Water heater load	. . . .	0.1	. . . .	*4.17	. . . .
Stirling R.P.D.—Rawdon and Sidney twps.	9,130.31	42.7	341.48	414.85	436.62
Trenton R.P.D.—Brighton, Murray and Sidney twps.	34,461.26	170.7	1,365.14	1,536.13	1,663.51
Warkworth R.P.D.—Percy twp.	738.44	3.0	23.99	39.17	35.22
Wellington R.P.D.—Ameliasburg, Athol, Hallowell, Hillier and Murray twps.	52,802.53	163.0	1,303.57	1,767.56	2,535.51
Water heater load	. . . .	0.4	. . . .	*18.33	. . . .

*Heater costs written off in year to extent of revenue available from heater loads.

SYSTEM *E.O.—COST OF POWER*

Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Munici- of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
655.34	187.54	576.26	894.18	8,323.57	8,323.57	see page	249
877.26	363.62	827.76	2,546.92	16,479.72	16,479.72	"	"
219.93	62.48	186.69	273.95	2,923.40	2,933.05	"	"
....	....	....	....	9.65			
204.60	51.87	160.12	203.88	2,223.34	2,223.34	"	"
10.22	2.83	8.22	10.85	113.22	113.22	"	"
1,699.15	480.49	1,587.01	2,681.18	25,172.47	25,218.94	"	"
....	....	....	....	46.47			
85.64	24.96	64.08	134.71	1,237.89	1,237.89	"	"
846.81	289.24	942.88	1,934.58	15,338.08	15,366.75	"	"
....	....	....	....	28.67			
239.69	76.79	190.84	449.35	3,822.94	3,826.79	"	"
....	....	....	....	3.85			
....	....	....	....	612.16	612.16	"	"
552.73	158.30	385.62	656.39	5,747.84	5,752.01	"	"
....	....	....	....	4.17			
79.51	29.02	91.42	193.03	1,585.93	1,585.93	"	"
278.05	108.84	344.03	771.67	6,067.37	6,067.37	"	"
7.46	2.57	7.42	13.56	129.39	129.39	"	"
660.33	171.05	538.88	736.86	7,713.76	7,732.09	"	"
....	....	....	....	18.33			

EASTERN ONTARIO

Statement showing the amount to be paid by each Municipality as the Cost—under the received by the Commission from each Municipality on account of such cost; pality upon ascertainment (by annual adjustment) of the actual cost

Rural power district	Share of capital cost of system on which interest and fixed charges are payable	Average horse-power supplied in year after correction for power factor	Cost of power purchased	Share of operating	
				Operating, maintenance and administrative expenses	Interest (including exchange)
	$ c.		$ c.	$ c.	$ c.
Williamsburg R.P.D.—Matilda and Williamsburg twps.	9,520.11	51.9	473.22	441.01	463.26
Water heater load		0.4		*14.45	
Totals—Municipalities	9,792,544.22	62,398.4	560,301.63	356,287.97	470 232.94
Water heater loads		155.9		*5,761.30	
Totals—Rural Power Districts	1,176,990.98	4,848.6	42,397.65	43,061.56	56,347.23
Water heater loads		4.9		*195.93	
Totals—Companies	5.385,552.10	20,117.1	160,882.29	201,482.46	269,208.31
Totals—Local Electric distribution systems	136,805.37	258.7	2,068.91	8,677.68	6,601.23
Water heater loads		0.5		*20.80	
Totals—Local Gas distribution system	26,534.67			16,632.61	1,278.56
Totals—Pulp Mill	276,232.42	1,425.5	11,400.14	8,270.42	13,420.94
	16,794,659.76				
Non-operating capital	2,526.11				
Campbellford Pulp Mill	52,559.93				
Grand totals	16,849,745.80	89,209.6	777,050.62	640,390.73	817,089.21

*Heater costs written off in year to extent of revenue available from heater loads.

Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be credited or charged to each Munici- of power supplied to it in the year ending October 31, 1933

costs and fixed charges			Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be credited or charged to each municipality upon ascertainment of the actual cost of power by annual adjustment	
Renewals	Obsolescence and contingencies	Sinking fund				Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
121.87	39.09	95.92	222.42	1,856.79	1,871.24	see page	249
....	....	....	....	14.45			
103,956.49	32,333.73	98,381.41	196,716.94	1,818,211.11	1,859,103.83	41,852.39	6,720.97
....	....	....	....	5,761.30			
13,672.78	4,042.80	11,856.65	21,906.71	193,285.38	193,481.31	....	....
....	....	....	....	195.93			
43,170.61	14,228.82	42,322.28	(218,623.65)	512,671.12	512,671.12	....	....
1,975.79	268.95	854.98	....	20,447.54	23,922.25	3,453.91	........†
....	....	....	....	20.80			
....	....	....	....	17,911.17	15,738.90	....	2,172.27†
2,091.44	851.33	2,751.09	....	38,785.36	38,785.36	....	....
164,867.11	51,725.63	156,166.41	....	2,607,289.71	2,643,702.77	....	....

†Surplus of $1,281.64 transferred to credit of obsolescence and contingencies reserve.

EASTERN ONTARIO SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Alexandria R.P.D.—Hawkesbury E. and Lochiel twps	27,482.78	13,741.39	13,741.39	1,982.46
Arnprior R.P.D.—Fitzroy twp	12,715.46	6,114.10	6,601.36	1,692.24
Belleville R.P.D.—Huntingdon, Sidney, Thurlow and Tyendinaga twps	148,173.49	73,407.78	74,765.71	10,734.38
Bowmanville R.P.D.—Darlington twp	41,124.53	20,562.27	20,562.26	4,338.36
Brighton R.P.D.—Brighton, Cramahe and Murray twps	14,613.69	7,306.85	7,306.84	931.84
Brockville R.P.D.—Augusta, Elizabethtown, Escott Front, Leeds & Lansdowne Front, Leeds & Lansdowne Rear, Yonge Front and Yonge & Escott Rear twps	*221,292.88	108,076.28	113,216.60	10,151.88
Campbellford R.P.D.—Rawdon and Seymour twps	34,908.83	17,454.41	17,454.42	1,920.15
Carleton Place R.P.D.—Ramsay twp	896.67	448.34	448.33	26.54
Chesterville R.P.D.—Cambridge, Finch, Osnabruck, Russell, Williamsburg and Winchester twps	*95,010.97	45,984.45	49,026.52	8,277.87
Cobourg R.P.D.—Alnwick, Haldimand, Hamilton and Hope twps	182,240.98	90,384.28	91,856.70	9,435.30
Colborne R.P.D.—Cramahe and Haldimand twps	50,124.15	25,062.08	25,062.07	4,575.07
Fenelon Falls R.P.D.—Bexley, Fenelon, Laxton, Digby, Longford and Somerville twps	40,835.33	19,993.49	20,841.84	1,940.36
Iroquois R.P.D.—Gower S., Matilda, Mountain, Oxford, Williamsburg and Winchester twps	174,264.61	86,788.95	87,475.66	10,479.26
Kemptville R.P.D.—Oxford twp	11,335.47	5,520.91	5,814.56	928.59
Kingston R.P.D.—Bedford, Ernestown, Hinchinbrooke, Kingston, Leeds & Lansdowne Front, Loughborough, Oso, Pittsburgh and Portland twps	262,539.82	127,237.90	135,301.92	12,221.68
Lakefield R.P.D.—Burleigh and Anstruther, Douro, Harvey and Smith twps	*47,105.86	23,442.25	23,663.61	1,301.04
Lindsay R.P.D.—Fenelon, Ops and Verulam twps	37,461.48	18,730.74	18,730.74	810.81
Martintown R.P.D.—Charlottenburg and Lancaster twps	49,189.50	24,594.75	24,594.75	2,153.34
Maxville R.P.D.—Caledonia, Kenyon, Plantagenet N., Plantagenet S. and Roxborough twps	118,216.38	59,108.19	59,108.19	8,258.22
Millbrook R.P.D.—Cavan, Manvers and Monoghan S. twps	29,504.34	14,468.27	15,036.07	1,848.46

NOTE.—Items marked * include portions of transmission lines aggregating $22,387.41 used for purposes of rural power districts.

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
899.69	654.12	543.01	271.51	142.95	4,493.74	3,816.93	....	676.81
509.84	315.19	252.51	126.25	69.04	2,965.07	2,606.54	....	358.53
5,384.83	3,524.08	2,898.32	1,449.16	770.13	24,760.90	27,043.18	2,282.28	....
1,196.30	989.54	821.46	410.73	216.25	7,972.64	7,681.75	....	290.89
534.86	351.51	291.80	145.90	76.82	2,332.73	2,712.70	379.97	....
10,341.41	5,341.93	4,332.92	2,166.47	1,167.39	33,502.00	32,240.06	....	1,261.94
2,174.41	833.60	692.00	346.00	182.17	6,148.33	4,394.17	....	1,754.16
5.16	21.47	17.84	8.92	4.70	84.63	67.21	....	17.42
4,449.79	2,347.39	1,887.82	943.90	512.99	18,419.76	16,357.88	....	2,061.88
5,062.36	4,371.32	3,599.36	1,799.68	955.28	25,223.30	23,864.99	....	1,358.31
2,734.24	1,184.44	983.25	491.63	258.84	10,227.47	8,342.93	....	1,884.54
805.56	986.16	801.70	400.85	215.51	5,150.14	4,853.28	....	296.86
6,179.59	4,178.61	3,456.19	1,728.10	913.17	26,934.92	27,210.78	275.86	....
211.70	279.31	226.00	112.99	61.04	1,819.63	1,926.13	106.50	....
12,923.01	6,214.94	4,998.53	2,499.27	1,358.18	40,215.61	33,561.31	....	6,654.30
633.66	1,077.03	889.66	444.82	235.37	4,581.58	3,547.41	....	1,034.17
897.67	662.64	550.08	275.04	144.81	3,341.05	2,428.62	....	912.43
1,909.88	1,175.30	975.66	487.83	256.84	6,958.85	6,600.96	....	357.89
3,452.79	2,802.65	2,326.60	1,163.28	612.48	18,616.02	17,829.98	....	786.04
1,009.90	718.94	585.47	292.73	157.11	4,612.61	4,329.71	....	282.90

EASTERN ONTARIO SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district. Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Napanee R.P.D.—Camden E., Ernestown, Fredericksburg S., Fredericksburg N., Hungerford, Portland, Richmond, Sheffield and Tyendinaga twps	*207,552.83	100,977.94	106,574.89	8,323.57
Nepean R.P.D.—Clarence, Cumberland, Gloucester, Goulburn, Gower N., March, Nepean and Osgoode twps	*334,380.97	162,727.79	171,653.18	16,479.72
Newcastle R.P.D.—Clark, Darlington and Manvers twps	*38,203.20	18,170.90	20,032.30	2,933.05
Norwood R.P.D.—Asphodel, Belmont and Methuen, Dummer and Seymour twps	*18,925.08	9,124.47	9,800.61	2,223.34
Omemee R.P.D.—Emily and Ops twps	3,613.10	1,806.55	1,806.55	113.22
Oshawa R.P.D.—Darlington, Pickering, Uxbridge, Whitby and Whitby E. twps	279,858.22	136,402.87	143,455.35	25,218.94
Perth R.P.D.—Bathurst, Burgess N., Elmsley N. and Elmsley S. twps	28,981.23	14,490.61	14,490.62	1,237.89
Peterborough R.P.D.—Cavan, Douro, Monoghan N., Monoghan S., Otonabee and Smith twps	177,366.26	88,683.13	88,683.13	15,366.75
Prescott R.P.D.—Augusta, Edwardsburg and Matilda twps	75,844.43	37,741.12	38,103.31	3,826.79
Renfrew R.P.D.—Admaston and Horton twps	7,887.19	3,943.59	3,943.60	612.16
Smiths Falls R.P.D.—Bastard & Burgess S., Crosby S., Kitley, Montague and Wolford twps	*117,659.89	56,935.36	60,724.53	5,752.01
Stirling R.P.D.—Rawdon and Sidney twps	*51,177.49	23,212.00	27,965.49	1,585.93
Trenton R.P.D.—Brighton, Murray and Sidney twps	*74,143.60	36,978.41	37,165.19	6,067.37
Warkworth R.P.D.—Percy twp	*1,671.04	648.75	1,022.29	129.39
Wellington R.P.D.—Ameliasburg, Athol, Hallowell, Hillier and Murray twps	*165,086.64	82,029.95	83,056.69	7,732.09
Williamsburg R.P.D. — Matilda and Williamsburg twps	35,451.63	17,725.81	17,725.82	1,871.24
	3,216,840.02	1,580,026.93	1,636,813.09	
Non-operating capital	9,465.43	4,732.72	4,732.71	
Totals	3,226,305.45	1,584,759.65	1,641,545.80	193,481.31

Note.—Items marked * include portions of transmission lines aggregating $22,387.41 used for purposes of rural power districts.

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
5,429.16	5,070.74	4,097.75	2,048.89	1,108.13	26,078.24	21,821.88	....	4,256.36
13,796.88	8,163.24	6,598.33	3,299.16	1,783.95	50,121.28	46,715.75	....	3,405.53
1,544.04	964.10	763.09	381.56	210.69	6,796.53	6,039.36	....	757.17
693.28	467.27	374.40	187.20	102.11	4,047.60	3,298.91	....	748.69
60.86	87.05	72.26	36.13	19.02	388.54	136.63	....	251.91
11,934.00	6,655.94	5,384.32	2,692.17	1,454.55	53,339.92	55,689.52	2,349.60	....
859.00	680.70	565.08	282.54	148.76	3,773.97	2,324.57	....	1,449.40
6,210.32	4,200.49	3,487.00	1,743.50	917.95	31,926.01	31,146.33	....	779 68
3,482.84	1,815.57	1,499.93	749.96	396.77	11,771.86	10,976.47	....	795.39
129.68	189.20	157.48	78.74	41.46	1,208.72	900.53	....	308.19
5,899.20	2,908.06	2,338.31	1,169.16	635.51	18,702.25	16,949.30	....	1,752.95
880.63	1,330.66	1,009.58	504.79	290.80	5,602.39	4,993.37	....	609.02
2,231.81	1,786.54	1,479.37	739.67	390.42	12,695.18	12,405.77	....	289.41
102.74	47.80	32.21	16.11	10.44	338.69	294.71	....	43.98
5,132.78	3,979.96	3,283.39	1,641.70	869 76	22,639.68	19,882.59	....	2,757.09
1,508.97	786.97	653.30	326.65	171.98	5,319.11	5,236.52	....	82.59
121,212.84	77,164.46	62,925.98	31,462.99	16,863.37	503,110.95	470,228.73	5,394.21	38,276.43

EASTERN ONTARIO

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Alexandria	Jan., 1921	694.85		7.00	701.85
Apple Hill	April, 1921	242.96			242.96
Athens	Jan., 1929	64.05			64.05
Bath	Nov., 1931	366.47			366.47
Belleville	April, 1929	5,694.08			5,694.08
Bloomfield	April, 1919	415.50			415.50
Bowmanville	Oct., 1931		1,824.91	1,824.91	
Brighton	Nov., 1929	221.82			221.82
Brockville	April, 1915	5,456.06			5,456.06
Cardinal	July, 1930	314.23			314.23
Carleton Place	May, 1919	3,880.22			3,880.22
Chesterville	April, 1914	1,140.89			1,140.89
Cobourg	Jan., 1932	2,273.76			2,273.76
Colborne	Jan., 1933				
Deseronto	Jan., 1931	848.06			848.06
Finch	Feb., 1928	338.15			338.15
Hastings	June, 1931	447.41			447.41
Havelock	Feb., 1921		348.49	348.49	
Kemptville	Dec., 1921	797.30			797.30
Lakefield	Aug., 1920		1,065.39	1,065.39	
Lanark	Sept., 1921	395.44			395.44
Lancaster	May, 1921		5,762.49	1,062.49	
Lindsay	Mar., 1928		3,378.24	3,378.24	
Madoc	Jan., 1930	636.74		6.37	643.11
Marmora	Jan., 1921	145.56			145.56
Martintown	May, 1921	73.66			73.66
Maxville	Feb., 1921	1,580.72			1,580.72
Napanee	Nov., 1929	2,294.36			2,294.36
Norwood	Feb., 1921	48.52			48.52
Oshawa	Feb., 1929		9,505.06	9,505.06	
Ottawa	Jan., 1914		1,597.54	1,639.95	
Perth	Feb., 1919	3,572.73			3,572.73
Peterborough	Mar., 1913	13,122.41			13,122.41
Picton	April, 1919	4,492.82			4,492.82
Port Hope	Nov., 1929	75.75			75.75
Prescott	Dec., 1913	431.43			431.43
Richmond	Aug., 1928	263.69			263.69
Russell	Feb., 1926	293.08			293.08
Smiths Falls	Sept., 1918	4,436.46			4,436.46
Stirling	Jan., 1930	323.51			323.51
Trenton	Sept., 1931	2,427.34			2,427.34
Tweed	Dec., 1930		993.58	993.58	
Warkworth	Oct., 1923		203.36	203.36	
Wellington	April, 1919	454.82			454.82
Westport	Nov., 1931	815.25			815.25

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
10.91		310.75		321.66	
3.38			45.25		41.87
1.02		532.74		533.76	
5.22		570.45		575.67	
82.99		6,153.39		6,236.38	
5.46		189.90		195.36	
	24.00	607.97		583.97	
3.01		1,051.57		1,054.58	
77.82		1,837.92		1,915.74	
4.44			179.43		174.99
78.46		384.42		462.88	
17.36		352.01		369.37	
		338.80		338.80	
			28.09		28.09
12.28			474.99		462.71
5.21		46.08		51.29	
6.42		352.40		358.82	
	5.54	237.67		232.13	
10.66		395.49		406.15	
	16.81	1,136.61		1,119.80	
5.81		59.42		65.23	
	194.40	366.69			4,527.71
	49.98	3,224.85		3,174.87	
10.68		192.35		203.03	
2.41		231.50		233.91	
0.98		129.09		130.07	
27.04		82.90		109.94	
30.17		1,191.06		1,221.23	
0.63			102.98		102.35
	133.33	7,098.57		6,965.24	
1.70	40.09		1,470.89		1,466.87
52.47		1,535.87		1,588.34	
175.44			3,747.76		3,572.32
67.22		2,491.93		2,559.15	
0.95		2,436.77		2,437.72	
6.09		786.98		793.07	
5.31			103.92		98.61
5.15		139.54		144.69	
71.47		594.06		665.53	
4.47		255.74		260.21	
31.92		3,375.97		3,407.89	
	22.60		567.66		590.26
	4.23	288.12		283.89	
6.13		442.54		448.67	
11.85		605.69		617.54	

EASTERN ONTARIO

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Whitby	Jan., 1926	....	860.51	860.51	....
Williamsburg	April, 1915	565.44	....	....	565.44
Winchester	Jan., 1914	956.53	....	....	956.53
Rural Power District*					
Alexandria R.P.D.	Dec., 1929	....	2,476.87	....	4.05
Arnprior R.P.D.	Dec., 1930	....	1,404.80	....	....
Belleville R.P.D.	Aug., 1927	20,815.72	....	....	474.67
Bowmanville R.P.D.	Jan., 1924	966.92	....	....	30.00
Brighton R.P.D.	Nov., 1929	....	296.77	....	....
Brockville R.P.D.	Nov., 1921	2,403.74	....	....	292.38
Campbellford R.P.D.	Aug., 1924	....	1,237.03	....	....
Carleton Place R.P.D.	Feb., 1932	....	55.37	....	....
Chesterville R.P.D.	Nov., 1921	3,448.43	....	....	281.26
Cobourg R.P.D.	Feb., 1927	2,074.59	....	....	140.00
Colborne R.P.D.	Aug., 1925	....	166.13	....	100.84
Fenelon Falls R.P.D.	July, 1931	....	872.12	....	50.00
Iroquois R.P.D.	July, 1930	2,600.70	....	1.00	440.00
Kemptville R.P.D.	Dec., 1930	....	498.66	....	....
Kingston R.P.D.	Jan., 1923	....	8,479.39	....	180.56
Lakefield R.P.D.	July, 1928	....	1,839.89	....	30.00
Lindsay R.P.D.	July, 1930	....	790.05	....	....
Martintown R.P.D.	Jan., 1922	....	230.40	....	121 10
Maxville R.P.D.	Dec.. 1927	....	942.76	....	96.08
Millbrook R.P.D.	July, 1930	....	1,337.23	....	....
Napanee R.P.D.	Nov., 1927	....	7,891.50	....	30.00
Nepean R.P.D.	Feb., 1922	7,100.68	....	....	698.81
Newcastle R.P.D.	Sept., 1927	1,883.35	....	....	....
Norwood R.P.D.	Jan., 1929	....	1,398.48	....	137.28
Omemee R.P.D.	Jan., 1931	....	301.34	....	20.00
Oshawa R.P.D.	April, 1918	37,932.98	....	....	1,733.92
Perth R.P.D.	Aug., 1931	....	1,871.50	175.43	42.64
Peterborough R.P.D.	Jan., 1927	13,643.45	....	....	....
Prescott R.P.D.	June, 1922	....	350 21	....	390.00
Renfrew R.P.D.	Nov., 1930	....	820 14	....	....
Smiths Falls R.P.D.	May, 1929	....	4,295.94	....	187.90
Stirling R.P.D.	Nov., 1929	....	1,457.26	....	20 00
Trenton R.P.D.	Jan., 1924	2,479.47	....	....	155.17
Warkworth R.P.D.	Nov., 1928	61.92	....	....	....
Wellington R.P.D.	Nov., 1925	....	5,822.27	....	421.28
Williamsburg R.P.D.	Feb., 1923	....	1,901.69	....	26.99
Totals	....	156,014.02	72,277.37	21,071.78	66,720.37

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
...	11.50	363.10	...	351.60	...
7.50	...	905.53	...	913.03	...
13.54	...	555.95	...	569.49	...
...	99.17	...	676.81	...	3,256.90
...	56.19	...	358.53	...	1,819.52
830.21	...	2,282.28	...	23,453.54	...
38.68	...	...	290.89	684.71	...
...	11.87	379.97	...	71.33	...
95.26	...	...	1,261.94	944.68	...
...	49.48	...	1,754.16	...	3,040.67
...	2.21	...	17.42	...	75.00
135.64	...	...	2,061.88	1,240.93	...
82.98	...	...	1,358.31	659.26	...
...	7.78	...	1,884.54	...	2,159.29
...	34.88	...	296.86	...	1,253.86
104.05	...	275.86	...	2,541.61	...
...	19.95	106.50	...	...	412.11
...	339.46	...	6,654.30	...	15,653.71
...	73.60	...	1,034.17	...	2,977.66
...	31.60	...	912.43	...	1,734.08
...	10.43	...	357.89	...	719.82
...	37.85	...	786.04	...	1,862.73
...	53.49	...	282.90	...	1,673.62
...	315.66	...	4,256.36	...	12,493.52
283.44	1.70	...	3,405.53	3,278.08	...
75.33	...	...	757.17	1,201.51	...
...	56.56	...	748.69	...	2,341.01
...	12.05	...	251.91	...	585.30
1,514.79	...	2,349.60	...	40,063.45	...
...	74.34	...	1,449.40	...	3,262.45
545.74	...	...	779.68	13,409.51	...
...	14.01	...	795.39	...	1,549.61
...	32.81	...	308.19	...	1,161.14
...	174.15	...	1,752.95	...	6,410.94
...	58.29	...	609.02	...	2,144.57
97.30	...	...	289.41	2,132.19	...
2.48	...	...	43.98	20.42	...
...	233.72	...	2,757.09	...	9,234.36
...	76.13	...	82.59	...	2,087.40
4,669.47	2,379.86	47,246.60	44,997.40	131,601.92	88,975.05

EASTERN ONTARIO SYSTEM

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932		$3,952,009.03
Deduct:		
Expenditures to October 31, 1932		895,690.00
Balance brought forward at October 31, 1932		$3,056,319.03
Renewals reserve in respect of Nipissing district transferred to Northern Ontario properties		215,038.84
		$2,841,280.19
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them	$117,629.27	
Amounts included in the costs of distribution of power within rural power districts	62,925.98	
Provision against equipment employed in respect of contracts with private companies which purchased power, and against equipment in local distribution systems	47,237.84	
Provision against equipment in Campbellford Pulp Mill	1,051.20	
Interest at 4% per annum on the monthly balances at the credit of the account	113,614.69	
		342,458.98
		$3,183,739.17
Deduct:		
Expenditures during the year ending October 31, 1933	$40,199.16	
Provision for renewals on lines transferred	912.98	
		41,112.14
Balance carried forward October 31, 1933		$3,142,627.03

EASTERN ONTARIO SYSTEM

Reserve for Obsolescence and Contingencies—October 31, 1933

Balance brought forward at October 31, 1932		$1,314,734.73
Contingency reserve in respect of Nipissing district transferred to Northern Ontario properties		186,788.89
		$1,127,945.84
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them	$36,376.53	
Amount included in the costs of distribution of power within rural power districts	31,462.99	
Provision against equipment employed in respect of contracts with private companies which purchased power, and local distribution systems	15,349.10	
Share of profits realized in respect of the sale of certain of the Commission's investment securities	4,671.39	
Net profit from operation of local distribution systems and utilities	1,281.64	
Interest at 4% per annum on monthly balances at the credit of the account	45,117.83	
		134,259.48
		$1,262,205.32
Deduct:		
Contingencies met with during the year ending October 31, 1933	$121,516.44	
Commission's share of American exchange paid during the year by the Province of Ontario on the transfer of funds to New York to meet capital retirements	9,579.66	
		131,096.10
Balance carried forward October 31, 1933		$1,131,109.22

EASTERN ONTARIO SYSTEM

SINKING FUND

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder as part of the cost of power delivered thereto, together with its proportionate share of other Sinking Funds, provided out of other revenues of the system, and interest allowed thereon to October 31, 1933

Municipality	Period of years ending Oct. 31, 1933	Amount
		$ c.
Alexandria	9 years	17,415.16
Apple Hill	9 “	1,689.16
Athens	5 “	2,458.42
Bath	2 “	418.12
Belleville	5 “	59,864.19
Bloomfield	5 “	2,562.61
Bowmanville	2 “	11,113.91
Brighton	4 “	3,884.81
Brockville	13 “	90,546.25
Cardinal	4 “	1,431.50
Carleton Place	9 “	40,058.83
Chesterville	14 “	17,050.69
Cobourg	2 “	8,067.27
Colborne	1 “	337.09
Deseronto	3 “	1,951.46
Finch	6 “	1,781.86
Hastings	3 “	788.72
Havelock	5 “	5,666.80
Kemptville	9 “	9,967.75
Lakefield	5 “	4,814.31
Lanark	9 “	3,115.98
Lancaster	9 “	4,203.18
Lindsay	5 “	34,998.34
Madoc	4 “	2,479.40
Marmora	5 “	2,136.48
Martintown	9 “	1,082.90
Maxville	9 “	5,041.29
Napanee	4 “	14,478.29
Norwood	5 “	2,711.38
Oshawa	5 “	186,135.35
Ottawa	18 “	52,227.00
Perth	9 “	34,151.00
Peterborough	5 “	117,464.27
Picton	5 “	20,429.65
Port Hope	4 “	17,960.58
Prescott	14 “	25,550.45
Richmond	6 “	894.27
Russell	8 “	2,863.57
Smiths Falls	10 “	52,428.70
Stirling	4 “	3,026.08
Trenton	2 “	15,465.69
Tweed	3 “	2,472.03
Warkworth	5 “	1,484.82
Wellington	5 “	3,949.61
Westport	2 “	949.46
Whitby	5 years	20,245.70
Williamsburg	13 “	2,473.15
Winchester	14 “	10,830.56
RURAL POWER DISTRICT*		
Alexandria R.P.D.	4 “	1,073.35
Arnprior R.P.D.	3 “	174.58
Belleville R.P.D.	5 “	7,434.78
Bowmanville R.P.D.	5 “	1,983.81
Brighton R.P.D.	4 “	502.34
Brockville R.P.D.	12 “	10,640.38
Campbellford R.P.D.	5 “	1,938.64
Carleton Place R.P.D.	2 “	8.35
Chesterville R.P.D.	12 “	6,884.82
Cobourg R.P.D.	5 “	8,029.70
Colborne R.P.D.	5 “	2,410.26
Fenelon Falls R.P.D.	3 “	832.30
Iroquois R.P.D.	4 “	6,414.85
Kemptville R.P.D.	3 “	368.09
Kingston R.P.D.	5 “	7,752.11
Lakefield R.P.D.	5 “	698.09
Lindsay R.P.D.	4 “	383.77
Martintown R.P.D.	12 “	4,240.71
Maxville R.P.D.	6 “	5,414.70
Millbrook R.P.D.	4 “	942.65
Napanee R.P.D.	5 “	5,420.16
Nepean R.P.D.	12 “	13,300.08
Newcastle R.P.D.	5 “	1,782.62
Norwood R.P.D.	5 “	791.03
Omemee R.P.D.	3 “	93.90
Oshawa R.P.D.	5 “	17,571.23
Perth R.P.D.	3 “	479.37
Peterborough R.P.D.	5 “	12,613.33
Prescott R.P.D.	12 “	6,094.34
Renfrew R.P.D.	3 “	114.84
Smiths Falls R.P.D.	5 “	4,706.98
Stirling R.P.D.	4 “	1,393.56
Trenton R.P.D.	5 “	2,419.56
Warkworth R.P.D.	5 “	88.69
Wellington R.P.D.	5 “	5,302.85
Williamsburg R.P.D.	9 “	960.66
Total	....	1,064,379.57

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*For townships included in rural power districts see “Cost of Power” and “Rural Operating” statements preceding.

EASTERN ONTARIO SYSTEM

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932		$857,536.86
Sinking fund provision in respect of Nipissing district now transferred to Northern Ontario properties		469.75
		$857,067.11
Provided in the year ending October 31, 1933:		
By charges included in the cost of power delivered to municipalities and rural power districts	$110,238.06	
By charges included in the costs of distribution of power within rural power districts	16,863.37	
By charges against contracts with private companies which purchased power, and local distribution systems	45,928.35	
Interest at 4% per annum on the amount standing at the credit of the reserve accounts	34,282.68	
		207,312.46
Total		$1,064,379.57

THUNDER BAY

Operating Account for the Year

COSTS OF OPERATION AS PROVIDED FOR UNDER THE TERMS OF THE POWER COMMISSION ACT

Costs of operation and maintenance, including the proportion of administrative expenses chargeable to the operation of this system:		
Generation and transmission equipment	$211,219.87	
Rural power districts	3,509.95	
		$214,729.82
Interest (including exchange thereon) on capital investment in:		
Generation and transmission equipment	$970,562.19	
Rural power districts	2,307.24	
		972,869.43
Provision for renewals of:		
Generation and transmission equipment	$147,780.23	
Rural power districts	1,738.59	
		149,518.82
Provision for obsolescence and contingencies in respect of:		
Rural power districts	$869.29	
		869.29
Provision for sinking fund:		
By charges included in the cost of power delivered to municipalities and rural power districts	$105,741.76	
By charges against contracts with private companies which purchased power	34,794.54	
By charges included in the cost of distribution of power within rural power districts	457.68	
		140,993.98
		$1,478,981.34

SYSTEM

Ending October 31, 1933

REVENUE FOR PERIOD

Amount received from (or billed against) each municipality by the Commission	$1,049,329.42	
Power sold to private companies	321,494.51	
Amounts received from (or billed against) customers in rural power districts	9,275.86	$1,380,099.79
Add:		
Amounts due by certain municipalities, being the difference between the sums received (or billed) at interim rates and the amounts charged—following annual adjustment—in respect of power supplied in the year	$95,683.25	
Amounts due by municipalities comprising certain rural power districts, being the difference between the sums received from (or billed against) customers therein and the amounts charged to such districts—following annual adjustment—in respect of power supplied in the year	3,198.30	98,881.55
Revenue		$1,478,981.34
		$1,478,981.34

THUNDER BAY

Statement showing the amount to be paid by each Municipality as the Cost—under received by the Commission from each Municipality on account of such cost; tainment (by annual adjustment) of the actual cost

Municipality	Interim rate per horsepower collected by Commission during year		Share of capital cost of system on which interest and fixed charges are payable	Average horsepower supplied in year after correction for power factor	Share of operating	
	To Jan. 1, 1933	To Oct. 31, 1933			Operating, maintenance and administrative expenses	Interest (including exchange)
			$ c.		$ c.	$ c.
Fort William	$21.00 plus transformation charges		3,298,120.77	10,221.5	39,264.12	173,083.04
Port Arthur	$21.00 plus transformation charges		10,514,944.79	33,019.9	120,311.40	551,451.75
Township of Nipigon	$30.00	$28.00	24,657.61	83.5	1,379.54	1,296.81
RURAL POWER DISTRICTS						
Fort William R.P.D.—Neebing, Paipoonge and Oliver twps			24,854.93	69.1	569.80	1,314.87
Port Arthur R.P.D.—Shuniah twp			12,444.24	31.8	389.65	609.49
Totals—Municipalities			13,837,723.17	43,324.9	160,955.06	725,831.60
Totals—Rural power districts			37,299.17	100.9	959.45	1,924.36
Totals—Companies			4,633,001.68	14,783.3	49,305.36	242,806.23
			18,508,024.02			
Non-operating capital			68,809.15			
Grand totals			18,576,833.17	58,209.1	211,219.87	970,562.19

THUNDER BAY SYSTEM—

Statement showing the costs of distribution of power within each Rural Power and the amounts remaining to be credited to certain Districts or charged (by annual adjustment) of the actual

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power delivered to districts as shown in "cost of power" table preceding
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
Fort William R.P.D.—Neebing, Oliver and Paipoonge twps	60,963.67	30,481.84	30,481.83	2,367.59
Port Arthur R.P.D.—Shuniah twp	46,914.36	23,457.18	23,457.18	1,223.82
Totals	107,878.03	53,939.02	53,939.01	3,591.41

SYSTEM *T.B.—COST OF POWER*

the Power Commission Act—of Power supplied to it by the Commission; the amount and the amount remaining to be charged to each Municipality upon ascer- of power supplied to it in the year ending October 31, 1933

costs and fixed charges					
Renewals	Sinking fund	Cost in excess of revenue from power sold to private companies	Total cost of power for year as provided to be paid under Power Commission Act	Amounts received from (or billed against) each municipality by the Commission	Amounts remaining to be charged to each municipality upon ascertainment of actual cost of power by annual adjustment
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
26,806.95	25,229.63	9,735.17	274,118.91	251,129.95	22,988.96
84,515.37	80,040.60	31,448.85	867,767.97	795,677.92	72,090.05
187.78	182.13	79.53	3,125.79	2,521.55	604.24
219.61	197.50	65.81	2,367.59	2,367.59	see below
102.49	91.90	30.29	1,223.82	1,223.82	"
111,510.10	105,452.36	41,263.55	1,145,012.67	1,049,329.42	95,683.25
322.10	289.40	96.10	3,591.41	3,591.41	....
35,948.03	34,794.54	(41,359.65)	321,494.51	321,494.51	....
147,780.23	140,536.30	....	1,470,098.59	1,374,415.34	95,683.25
			Net Charge...	....	95,683.25

RURAL POWER DISTRICTS *T.B.—RURAL OPERATING*

District, the revenues collected from (or charged to) customers within each District, to the Municipalities comprising certain other Districts upon ascertainment costs in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,113.14	1,661.95	1,250.95	625.47	329.31	8,348.41	6,870.52	....	1,477.89
1,396.81	645.29	487.64	243.82	128.37	4,125.75	2,405.34	....	1,720.41
3,509.95	2,307.24	1,738.59	869.29	457.68	12,474.16	9,275.86	....	3,198.30

THUNDER BAY

Statement showing the net Credit or Charge to each Municipality in respect of power made and interest added during the year. Also the net amount Credited ending October 31, 1933, and the accumulated amount standing

Municipality	Date commenced operating	Net credit or charge at October 31, 1932		Cash receipts and payments on account of such credits and charges, also adjustments made during the year	
		Credit	Charge	Credited	Charged
		$ c.	$ c.	$ c.	$ c.
Fort William	Oct., 1926	....	24,527.56	24,527.56	....
Nipigon twp	Jan., 1925	891.63	....	....	891.63
Port Arthur	Dec., 1910	....	137,165.48	137,165.48	....
RURAL POWER DISTRICTS*					
Fort William R.P.D.	Oct., 1932	....	123.34	....	40.00
Port Arthur R.P.D.	Jan., 1932	0.88	....	....	....
Totals	....	892.51	161,816.38	161,693.04	931.63

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statements preceding.

THUNDER BAY SYSTEM

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932	$1,144,179.30	
Deduct:		
Expenditures to October 31, 1932	3,656.90	
Balance brought forward October 31, 1932		$1,140,522.40
Added during the year ending October 31, 1933:		
Amounts charged to municipalities and rural power districts as part of the cost of power delivered to them	$111,832.20	
Amounts included in the costs of distribution of power within rural power districts	1,738.59	
Provision against equipment employed in respect of contracts with private companies which purchased power	35,948.03	
Reserve provided in respect of equipment transferred	793.19	
Interest at 4% per annum on monthly balances at the credit of the account	45,650.65	
		195,962.66
		$1,336,485.06
Deduct:		
Expenditures during the year ending October 31, 1933		11,165.57
Balance carried forward October 31, 1933		$1,325,319.49

SYSTEM

supplied to it to October 31, 1932, the cash receipts and payments thereon, adjustments or Charged to each Municipality in respect of power supplied in the year as a Credit or Charge to each Municipality at October 31, 1933

Interest at 4% per annum added during the year		Net amount credited or charged in respect of power supplied in the year ending October 31, 1933		Accumulated amount standing as a credit or charge on October 31, 1933	
Credited	Charged	Credited	Charged	Credit	Charge
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	376.31	....	22,988.96	....	23,365.27
16.43	....	....	604.24	....	587.81
....	1,884.32	....	72,090.05	....	73,974.37
....	4.93	....	1,477.89	....	1,646.16
0.03	....	....	1,720.41	....	1,719.50
16.46	2,265.56	....	98,881.55	....	101,293.11

THUNDER BAY SYSTEM

Reserve for Obsolescence and Contingencies—October 31, 1933

Balance brought forward October 31, 1932		$711,241.06
Added during the year ending October 31, 1933:		
Amount included in the costs of distribution of power within rural power districts	$869.29	
Share of profits realized in respect of the sale of certain of the Commission's investment securities	2,527.11	
Interest at 4% per annum on monthly balances at the credit of the account	28,449.64	
		31,846.04
		$743,087.10
Deduct:		
Commission's share of American exchange paid during the year by the Province of Ontario on the transfer of funds to New York to meet capital retirements		27,690.79
Balance carried forward October 31, 1933		$715,396.31

Statement showing Sinking Fund paid by each Municipality in the periods mentioned hereunder as part of the cost of power delivered thereto, together with its proportionate share of other sinking funds provided out of other revenues of the system, and interest allowed thereon to October 31, 1933

Municipality	Period of years ending October 31, 1933	Amount
		$ c.
Fort William	7 years	239,785.83
Port Arthur	7 "	821,761.42
Township of Nipigon	7 "	1,439.22
RURAL POWER DISTRICTS*		
Fort William R.P.D.	2 years	611.43
Port Arthur R.P.D.	2 "	355.55
Total		1,063,953.45

*For townships included in rural power districts see "Cost of Power" and "Rural Operating" statement preceding.

ACCOUNT WITH THE PROVINCIAL TREASURER—NIAGARA AND

Feb. 8, 1933 June 19, 1933 Aug. 8, 1933	Cash returned to the Province in the year ending October 31, 1933, to cover the difference between advances by the Province to the Commission and the capital expenditures made out of such advances by the Commission in the year ending October 31, 1932		$339,473.57
Feb. 8, 1933	Repayment to the Province of the investment—according to book values—in the distribution system in Cobourg (in the former Central Ontario System) upon the sale of these properties to the municipality		451,585.69
April 30, 1933	Paid on account of interest and exchange	$5,274,086.46	
Oct. 31, 1933	Cheque to cover balance of interest and exchange for year ending October 31, 1933	5,326,005.30	10,600,091.76
Oct. 31, 1933	Payment under debt retirement plan		2,155,176.38
Oct. 31, 1933	Balance carried down		187,964,549.41
			$201,510,876.81

THUNDER BAY SYSTEM

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932		$887,461.03
Provided in the year ending October 31, 1933:		
By charges included in the cost of power delivered to municipalities and rural power districts	$105,741.76	
By charges included in the costs of distribution of power within rural power districts	457.68	
By charges against contracts with private companies which purchased power	34,794.54	
Interest at 4% per annum on amounts standing at the credit of the reserve accounts	35,498.44	
		176,492.42
Total		$1,063,953.45

OTHER SYSTEMS—FOR THE YEAR ENDING OCTOBER 31, 1933

Oct. 31, 1932	Cash advances to date for the purposes of Niagara and other Power Systems	$204,488,631.44	
	Less repayments to that date under debt retirement plan	14,853,440.35	
			$189,635,191.09
Nov. 1, 1932 to Oct. 31, 1933	Sundry cash advances		1,275,593.96
Oct. 31, 1933	Interest for year on all cash advances	$10,522,687.93	
Oct. 31, 1933	Commission's share of American exchange paid during the year by the Province of Ontario on the transfer of funds to New York to meet interest and capital retirements	819,433.15	
		$11,342,121.08	
	Less—Interest credited by Province on repayments made by Commission	742,029.32	
			10,600,091.76
			$201,510,876.81
Nov. 1, 1933	Total cash advances		$204,973,166.14
	Less—Payments made under debt retirement plan		17,008,616.73
			$187,964,549.41

NORTHERN ONTARIO

Embracing the Nipissing, Wahnapitae, Abitibi-

Operating Account for the

COST OF OPERATION

Power purchased:	
For Abitibi-Sudbury District to May 25, 1933, after which date power was supplied from No. 1 unit of the Abitibi Canyon development	$118,246.57
Costs of operation and maintenance, including the proportion of administrative office expense chargeable to the operation of these properties	286,942.24
Interest (including exchange thereon) on capital investment in generation and transmission equipment	371,264.32
Provision for renewals of generation and transmission equipment	99,669.57
Provision for obsolescence and contingencies	31,316.85
Total costs of operation	$907,439.55
Operating surplus for year	20,258.19
	$927,697.74
Provision—to extent of surplus available—for depreciation on Hunta-Copper Cliff line for period prior to November 1, 1932	$20,258.19

NOTE.—Interest on expenditures on Abitibi Canyon development capitalized during construction.

NORTHERN ONTARIO PROPERTIES

Embracing the Nipissing, Wahnapitae, Abitibi-Sudbury and Patricia (Ear Falls) Districts

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932		$339,105.54
Deduct expenditures to October 31, 1932		51,379.73
Amount of reserves at October 31, 1932		$287,725.81
Added during the year ending October 31, 1933	$119,927.76	
Interest at 4 per cent. per annum on monthly balances at the credit of the account	11,509.04	131,436.80
		$419,162.61
Deduct expenditures during the year ending October 31, 1933		5,483.51
Balance carried forward October 31, 1933		$413,679.10

PROPERTIES

Sudbury and Patricia (Ear Falls) Districts

Year Ending October 31, 1933

Revenue for Period

Power sold to private companies and customers	$927,697.74
	$927,697.74
Operating surplus for year brought down	$20,258.19

NORTHERN ONTARIO PROPERTIES

Embracing the Nipissing, Wahnapitae, Abitibi-Sudbury and Patricia (Ear Falls) Districts

Reserve for Obsolescence and Contingencies—October 31, 1933

Amount of reserves to October 31, 1932		$175,744.75
Added during the year ending October 31, 1933	$31,316.85	
Share of profits realized in respect of the sale of certain of the Commission's investment securities	789.93	
Interest at 4 per cent. per annum on monthly balances at the credit of the account	7,029.79	
		39,136.57
		$214,881.32
Deduct:		
Contingencies met with during the year ending October 31, 1933	$648.00	
Commission's share of American exchange paid during the year by the Province of Ontario on the transfer of funds to New York to meet capital retirements	2,629.86	
		3,277.86
Balance carried forward October 31, 1933		$211,603.46

NORTHERN ONTARIO

Nipissing Rural Power Districts—

Statement showing the costs of distribution of power within each Rural Power
and the amounts remaining to be credited to certain Districts or charged to
annual adjustment) of the actual costs

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			Cost of power
	Total capital cost	Government grant	Commission's investment	
	$ c.	$ c.	$ c.	$ c.
North Bay R.P.D.—West Ferris and Widdifield twps.	32,565.04	15,911.74	16,653.30	3,993.41
Powassan R.P.D.—Himsworth South twp.	5,202.30	2,601.15	2,601.15	121.97
Totals	37,767.34	18,512.89	19,254.45	4,115.38

NORTHERN ONTARIO

Nipissing Rural Power Districts—

Statement showing the net Credit to each Municipality in respect of power supplied
Credited to each Municipality in respect of power supplied in the year
to each Municipality

Rural power district	Date commenced operating	Net credit at October 31, 1932
		Credit
		$ c.
North Bay R.P.D.—West Ferriss and Widdifield twps.	June, 1927	7,571.06
Powassan R.P.D.—Himsworth South twp.	Nov., 1931	41.05
Totals	....	7,612.11

PROPERTIES *NIPISSING RURAL*

Rural Operating

District, the revenues collected from (or charged to) customers within each District, the Municipalities comprising certain other Districts upon ascertainment (by in the year ending October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,733.64	799.00	621.67	310.83	167.44	8,625.99	9,627.44	1,001.45	....
84.99	127.80	101.73	50.87	26.78	514.14	583.85	69.71	....
2,818.63	926.80	723.40	361.70	194.22	9,140.13	10,211.29	1,071.16	....

PROPERTIES *NIPISSING RURAL*

Credit or Charge

to it to October 31, 1932, the interest added during the year; also the net amount ending October 31, 1933, and the accumulated amount standing as a Credit at October 31, 1933

Interest at 4% per annum added during the year	Net amount credited in respect of power supplied in the year ending October 31, 1933	Accumulated amount standing as a credit on October 31, 1933
Credited	Credited	Credit
$ c.	$ c.	$ c.
302.84	1,001.45	8,875.35
1.64	69.71	112.40
304.48	1,071.16	8,987.75

NORTHERN ONTARIO

Nipissing Rural Power Districts—Reserve for Renewals —October 31, 1933

Total provision for renewals to October 31, 1932	$2,958.59
Added during the year ending October 31, 1933	723.40
Interest at 4 per cent. per annum on monthly balances at the credit of the account	118.34
Balance carried forward October 31, 1933	$3,800.33

Nipissing Rural Power Districts—Sinking Fund

Statement showing Sinking Fund paid by each Rural Power District in the periods mentioned hereunder, as part of the cost of power delivered thereto, and interest allowed thereon to October 31, 1933

Rural power district	Period of years ending October 31, 1933	Amount
		$ c.
North Bay R.P.D.—West Ferris and Widdifield twps.	4 years	634.76
Powassan R.P.D.—Himsworth S. twp.	2 "	48.00
Total		682.76

NORTHERN ONTARIO

Manitoulin Island Rural Power

Statement showing the costs of distribution of power within Rural Power District, amount remaining to be charged to the Municipalities comprising costs in the year ending

District and municipalities comprised therein	Total capital cost of each district, Provincial Government grant received and applied thereagainst, and the balance representing the investment by the Commission			
	Total capital cost	Government grant	Commission's investment	Cost of power purchased
	$ c.	$ c.	$ c.	$ c.
Manitoulin R.P.D.—Gordon Allan, Billings and Carnarvon twps., Town of Gore Bay and Indian Reserve	59,970.48	27,344.69	32,625.79	3,281.25

PROPERTIES *NIPISSING RURAL*

Nipissing Rural Power Districts—Reserve for Obsolescence and Contingencies —October 31, 1933

Amount of reserves to October 31, 1932	$919.50
Added during the year ending October 31, 1933	361.70
Interest at 4 per cent. per annum on monthly balances at the credit of the account	36.78
Balance carried forward October 31, 1933	$1,317.98

Nipissing Rural Power Districts—Reserve for Sinking Fund, October 31, 1933

Total provision for sinking fund to October 31, 1932		$469.75
Provided in the year ending October 31, 1933:		
By charges included in the costs of distribution of power within rural power districts	$194.22	
Interest at 4 % per annum on the amount standing at the credit of the reserve accounts	18.79	
		213.01
		$682.76

PROPERTIES *MANITOULIN RURAL*

District—Rural Operating

the revenues collected from (or charged to) customers within the District, and the this District upon ascertainment (by annual adjustment) of the actual October 31, 1933

Distribution costs and fixed charges					Total cost	Revenue from power and light customers in each district	Amounts remaining to be credited to certain districts or charged to the municipalities comprising certain other districts	
Cost of operation, maintenance and administration	Interest (including exchange)	Renewal charges	Obsolescence and contingencies	Sinking fund			Credited	Charged
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,447.26	1,434.09	996.29	476.90	285.45	7,921.24	6,537.40	....	1,383.84

GUELPH

Operating Account for

EXPENDITURE

Transportation expense	$23,745.09	
Maintenance—way and structures	6,747.34	
Maintenance—equipment	15,566.45	
Electric power and motor fuel	9,469.67	
General operating and management expenses, including a proportion of administrative and accounting expenses of the Commission chargeable to the operation of the railway	10,577.01	
Insurance	3,700.83	
Taxes	353.89	
		$70,160.28
Interest		13,768.35
Provision for instalments payable to the City of Guelph on May 1, 1933, and November 1, 1933, under purchase agreement:		
Interest for year	$3,349.36	
On account of principal	8,350.64	
		11,700.00
Provision for sinking fund		3,159.00
		$98,787.63

GUELPH RADIAL RAILWAY

Reserve for Renewals—October 31, 1933

Total provision for renewals to October 31, 1932	$55,793.41
Deduct:	
Expenditures to October 31, 1932	24,860.19
Balance brought forward October 31, 1932	$30,933.22
Added during the year ending October 31, 1933:	
Interest at 4% on the monthly balances at the credit of the account	1,237.33
	$32,170.55
Deduct:	
Expenditures during the year ending October 31, 1933	697.57
Balance carried forward October 31, 1933	$31,472.98

RADIAL RAILWAY

the Year Ending October 31, 1933

REVENUE

Operating revenue	$57,455.31
Net deficit for year payable by the City of Guelph	41,332.32
	$98,787.63

GUELPH RADIAL RAILWAY

Reserve for Sinking Fund—October 31, 1933

Total provision for sinking fund to October 31, 1932	$4,801.68
Provided in the year ending October 31, 1933	3,159.00
Interest at 4% on the monthly balances at the credit of the account	192.07
Balance carried forward October 31, 1933	$8,152.75

THE HAMILTON STREET

A Subsidiary of the Hydro-Electric

Balance Sheet—

ASSETS

Properties, road, equipment, motor buses, franchises, etc., as shown in the books of the Company		$4,777,945.79	
Less—Reserves for renewal—			
Of properties, road and equipment	$695,341.72		
Of motor buses (fully covered)	189,586.94		
		884,928.66	
			$3,893,017.13
Expenditures by Company in respect of T.H. & B. subway at James Street—carried forward pending final allocation of total cost of subway by Dominion Railway Board			20,932.78
Materials and supplies			56,652.25
Cash in bank		$12,438.70	
Cash in hands of conductors and other employees		10,940.00	
			23,378.70
Accounts receivable—Less reserve for doubtful accounts			5,687.93
Taxes and insurance prepaid			6,699.08
			$4,006,367.87

THE HAMILTON STREET

A Subsidiary of the Hydro-Electric

Statement of Revenue and Expenditure—

EXPENDITURE

Transportation expenses	$311,303.17
Maintenance—Way and structures	50,568.84
Maintenance—Equipment	100,968.86
Power and motor fuel—including power purchased	177,362.25
General operating and management expenses, including a proportion of administrative and accounting expenses of the Commission chargeable to the operation of the railway	49,945.13
Taxes	56,761.03
Insurance—Fire, accident and liability	40,117.96
Total operating expenses	$787,027.24
Net profit for year, before provision for renewal of road and equipment	27,307.72
	$814,334.96

RAILWAY COMPANY

Power Commission of Ontario

October 31, 1933

LIABILITIES

Capital stock:		
Issued—64,100 shares of a par value of $50.00 each	$3,205,000.00	
Capital surplus—Created by advances to the Company by Dominion Power & Transmission Company Limited, prior to 31st December, 1929	488,846.85	
		$3,693,846.85
Profit and loss account at October 31st, 1932	$21,929.59	
Less charges thereagainst in the last fiscal year	3,968.35	
		17,961.24
Hydro-Electric Power Commission of Ontario—		
Cash advances		250,837.27
Accounts payable and accrued charges		37,922.51
Reserve for outstanding tickets		5,800.00
Contingent liability—		
Share of cost of T.H. & B. subway at James Street expected to be found payable by Company upon final allocation of total cost of subway by Dominion Railway Board.		
		$4,006,367.87

RAILWAY COMPANY

Power Commission of Ontario

For the Year ending October 31, 1933

REVENUE

Passenger	$799,074.63
Freight and express	2,961.80
Miscellaneous	12,298.53
Total Revenue	$814,334.96
	$814,334.96

NOTE:

Interest on Commission's advances to, and investment in capital stock of, the Hamilton Street Railway Company	$164,220.43
in excess of profit for year (before provision for renewal of road and equipment) from operation of the street railway	27,307.72
a balance of	$136,912.71

has been charged to the contingency reserve of the Niagara system.

APPROPRIATIONS, ADVANCES AND CAPITAL EXPENDITURES

For the Year Ending October 31, 1933

Appropriations made by the Legislature for the purposes of the Commission, Cash Advances by the Province to the Commission on account of such appropriations, and the Capital Expenditures made on each Undertaking and System by the Commission out of such Cash Advances in the Year Ending October 31, 1933

NIAGARA SYSTEM

Appropriations by Legislature:			
For power developments, including Chats Falls		$730,000.00	
For transformer and distributing stations		550,000.00	
For transmission lines and rural distribution systems		600,000.00	
For miscellaneous		350,000.00	
		$2,230,000.00	
Cash advances to the Commission out of such appropriations	$1,294,785.00		
Deduct: Amount returned to the Province on October 31, 1933	500,000.00		
		$794,785.00	
Unexpended balance as at October 31, 1933, returnable to Province		294,591.31	
			$500,193.69
Capital expenditure by the Commission:			
On Chats Falls development		$289,262.38	
On Ontario Power development		4,546.77	
On steel-tower lines		7,680.73	
On wood-pole lines		17,201.56	
On transformer stations		101,318.35	
On Eastern transformer stations		168,532.37	
On Eastern right-of-way		113,078.46	
On rural power districts		184,551.19	
On local distribution systems		9,179.56	
		$895,351.37	
On Queenston-Chippawa development— Receipts in excess of expenditures	$35,294.98		
On right-of-way— Receipts in excess of expenditures	37,280.19		
On Eastern transmission lines— Receipts in excess of expenditures	322,582.51		
		395,157.68	
			$500,193.69

GEORGIAN BAY SYSTEM

Appropriations by Legislature	$405,000.00	
Cash advances to the Commission out of such appropriations	$89,042.00	
Unexpended balance as at October 31, 1933, returnable to the Province	23,422.53	
		$65,619.47
Capital expenditure by the Commission:		
On power developments	$8,743.56	
On transformer stations	5,931.46	
On transmission lines	13,505.96	
On rural power districts	40,229.60	
	$68,410.58	
On local distribution systems— Receipts in excess of expenditures	2,791.11	
		$65,619.47

EASTERN ONTARIO SYSTEM

Appropriations by Legislature	$305,000.00	
Cash advances to the Commission out of such appropriations	$94,000.00	
Unexpended balance as at October 31, 1933, returnable to the Province	14,096.46	
		$79,903.54
Capital expenditure by the Commission:		
On power developments	$2,792.34	
On transformer stations	415.74	
On rural power districts	71,837.55	
On local distribution systems	4,290.91	
On rural lines	1,238.53	
	$80,575.07	
On transmission lines—		
Receipts in excess of expenditures	671.53	
		$79,903.54

THUNDER BAY SYSTEM

Appropriations by Legislature and by Treasury Board minute	$206,000.00	
Cash advances to the Commission out of such appropriations and Treasury Board minute	$149,000.00	
Expended out of renewals and other reserve funds of the system	1,033.67	
		$150,033.67
Capital expenditure by the Commission:		
On transmission lines	$8,699.19	
On transformer stations	119,221.50	
On rural power districts	32,804.16	
	$160,724.85	
On power developments—		
Receipts in excess of expenditures	10,691.18	
		$150,033.67

NORTHERN ONTARIO PROPERTIES

ABITIBI CANYON DEVELOPMENT

Appropriations by Legislature	Nil	
Cash received by the Commission upon purchase from the Receiver of the Assets covered by the Bond Mortgage of Ontario Power Service Corporation, Limited	$2,697,392.69	
Unexpended balance as at October 31, 1933	897,167.55	
		$1,800,225.14
Capital expenditure by the Commission:		
On purchase of the above mentioned assets, in cash	$290,150.00	
This is additional to the $17,625,125.00 twenty year bonds of the Commission, guaranteed by the Province, bearing interest at 3½ per cent. for the first five years, 4 per cent. for the next five years and 5 per cent. for the last ten years.		
Toward completion of the development and on account of expenses incidental to the purchase	1,452,668.92	
In settlement of contractors' and other claims	57,406.22	
		$1,800,225.14

NORTHERN ONTARIO PROPERTIES—Continued
AND
MANITOULIN RURAL POWER DISTRICT

Appropriations by Legislature and by Treasury Board Minute			$255,690.96	
Cash advances to the Commission out of such appropriations and Treasury Board Minute		$88,766.96		
Deduct: Amount returned to Province on August 8, 1933		5,428.83		
			$83,338.13	
Deduct: Capital expenditure in the year ending October 31, 1932, in excess of cash advances by the Province:				
(a) In respect of Northern Ontario Properties		$45,153.78		
(b) In respect of Manitoulin Rural Power District		1,119.61		
			46,273.39	
			$37,064.74	
Expended out of renewals and other reserve funds of the Commission			3,723.72	
				$40,788.46
Capital expenditure by the Commission on Northern Ontario Properties:				
On power development—Wahnapitae district		$10,584.13		
On transformer stations—Wahnapitae district		2,141.94		
		$12,726.07		
On transmission lines—Wahnapitae district Receipts in excess of expenditures		2,756.39		
			$9,969.68	
On transmission lines—Hunta-Copper Cliff			8,070.70	
On transmission lines—Nipissing district		$375.98		
On local distribution systems—Nipissing district		4,627.85		
On rural power districts—Nipissing district		1,932.37		
		$6,936.20		
On power development—Nipissing district Receipts in excess of expenditures	$649.27			
On transformer stations—Nipissing district Receipts in excess of expenditures	88.59			
		737.86		
			6,198.34	
			$24,238.72	
On power development—Patricia district (Ear Falls) Receipts in excess of expenditures			956.44	
			$23,282.28	
Capital expenditure by the Commission on Manitoulin Rural Power District:				
On transformer stations—Manitoulin district		$4,989.76		
On rural power districts—Manitoulin district		12,516.42		
			17,506.18	
				$40,788.46

MISCELLANEOUS

Appropriations by Legislature	$1,000,000.00	
Cash advances to the Commission out of such appropriations	$60,000.00	
Unexpended balance as at October 31, 1933, returnable to Province	10,008.50	
		$49,991.50
Capital expenditure by the Commission:		
On preliminary engineering and architects' plans for proposed new administration building	$46,860.24	
On service building and equipment	3,131.26	
		$49,991.50

RURAL POWER DISTRICTS—SUMMARY

Statement showing the total capital expenditures to October 31, 1933, on the construction of Primary and Secondary lines in Rural Power Districts; the portion thereof in course of construction; the investment in lines in operation; the amounts of the Grant (fifty per cent of both Primary and Secondary lines) payable to the Commission by the Province of Ontario; also the extents to which Grants stand authorized by Orders-in-Council under the Rural Hydro Electric Distribution Act, and the amounts of such Grants paid over by the Province to the Commission under such authorization up to October 31, 1933

System	Total capital expenditure	In course of construction	In operation	*Grants (50% of primary and secondary lines) payable by the Province	Extents to which grants stand authorized by orders-in-council	Grants paid by Province to Commission under such authorizations
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Niagara system	12,793,360.49	15,149.60	12,778,210.89	6,353,049.58	7,241,161.31	6,351,737.71
Georgian Bay system	1,496,078.84	2,872.74	1,493,206.10	715,387.58	829,681.99	715,290.09
Thunder Bay system	107,878.03	....	107,878.03	53,939.02	67,650.00	53,939.02
Manitoulin district	54,872.37	....	54,872.37	27,344.69	31,461.50	27,344.69
Nipissing district	37,767.34	....	37,767.34	18,512.89	22,047.00	18,512.89
Eastern Ontario system including Ottawa and Madawaska districts	3,203,918.04	9,465.43	3,194,452.61	1,584,759.65	1,806,122.39	1,584,727.11
Totals	17,693,875.11	27,487.77	17,666,387.34	8,752,993.41	9,998,124.19	8,751,551.51
Additional sum authorized by above Orders-in-Council and paid over to the Commission but not allocated as between rural power districts	....	....	....	....	....	41,556.59
						8,793,108.10

NOTE:—

The cash paid over by the Province to the Commission up to October 31, 1933, on account of authorized grants to rural power districts—as above set out—amounts to $8,793,108.10

The Grants payable by the Province—as above set out—in respect of rural power districts as at October 31, 1933, amount in the aggregate to 8,752,993.41

A balance of $40,114.69

Which balance represents:

(a) Grant funds in the hands of the Commission at October 31, 1933, not allocated but to apply against the construction of authorized rural power districts and extension to existing districts $41,556.59

Less:

(b) Grants (or balance thereof) payable by the Province to the Commission in respect of certain rural power districts completed, or under construction 1,441.90

$40,114.69

NOTE:—*Grants not made by Province in respect of a summer resort, street lighting systems in 61 districts, service buildings in 2 districts and amounts paid for business already established (hereinafter called Intangible Assets) in 9 rural distribution systems purchased from private companies.

SECTION X

MUNICIPAL ACCOUNTS

And Statistical Data Relating to Hydro-Electric Distribution Systems Operated by Individual Municipalities Served by The Hydro-Electric Power Commission

The Municipal Accounts section of this report presents in summary, and individually, the results of the operation of the local electrical utilities in municipalities owning their own distributing system and operating with energy supplied by or through the Hydro-Electric Power Commission.

Financial statements prepared from the books of these "Hydro" utilities are submitted herein to show how each has operated during the past year, and its financial status at the present time. Other tables give useful statistical information respecting average costs for the various classes of service and the rates in force.

The books of account of the electrical utilities in all municipalities which have contracted with the Hydro-Electric Power Commission of Ontario for a supply of power are kept in accordance with an accounting system designed by the Commission. During the year 1933, this standard method of accounting was installed in Mildmay and Colborne.

Periodical inspections are made of the books of all "Hydro" electrical utilities and local officials are assisted in the improvement of their office routine with a view to standardizing, as far as possible, the methods employed. In the majority of the smaller municipalities much of the bookkeeping for the electrical utilities is performed by representatives of the municipal audit department of the Commission as a measure of economy. This arrangement insures the correct application of the standard accounting system, with resultant uniformity in classification of revenues and expenditures; secures true reflections of the actual operating results for the year, and greatly enhances the comparative values of the reports.

The first financial statement in this section presents consolidated balance sheets for each year since 1912, and thus shows the march of progress. It combines the balance sheets of the local municipal utilities of all the systems. It is worth noting that the total plant value has increased from $10,081,469.16 in 1913 to $91,184,586.56 in 1933, and the total assets from $11,907,826.86 to $135,703,252.64. The liabilities have not increased in the same proportion as the assets, rising from $10,468,351.79 to $49,920,753.88. The reasons for this are the regular fulfilment of debt retirement schedules under serial debenture provisions or by maturity of sinking funds, and also the fact that much of the cost of the increasing plant value has been financed out of reserves and surplus without increasing the capital liabilities of the respective utilities. By this procedure the funds of the systems are used to best advantage. Examination of the results will also show that there is a steady decline in the percentage of net liabilities to total assets; being from 88.0 per cent in 1913 to 39.5 per cent in 1933. The equities in the Hydro-Electric Power Commission's systems automatically acquired through the inclusion of sinking funds as part of the cost of power are not taken into account in arriving at these percentages.

The second financial statement presents consolidated operating reports for each year since "Hydro" service was inaugurated and combines the results from the local municipal utilities of all the systems. After providing for every cost of operation and fixed charges, including the standard provision for depreciation, the combined operating reports show a net shortage of $627,011.33 for 1933.

The five statements, "A" to "E," following the two consolidated reports show the financial status of each municipal utility and the results of operations, giving classified information respecting revenue, operating costs, number of consumers and consumption, cost of power to municipalities, power and lighting rates charged to consumers, etc. In the statements "A" and "B," the municipalities are arranged alphabetically under each system; in statement "D" the municipalities are arranged in three groups—cities, towns and small municipalities; in statements "C" and "E" all municipalities are arranged alphabetically.

Statement "A" presents the balance sheet of each electrical utility. The plant values are portrayed under the general subdivisions specified in the standard accounting system and the other items on the positive side of the ledger which are included in total assets are, by their nomenclature, self-explanatory with the exception, perhaps, of the item entitled "equity in H.E.P.C. systems." This represents the amount of accumulated sinking fund credited to the municipal utilities through the medium of "power cost" and accrued interest, toward the ultimate retirement of the capital invested by the Hydro-Electric Power Commission of Ontario on their behalf. The total accumulation by these municipalities at the end of 1933 is shown in the consolidated balance sheet to be $26,045,679.00.

In conformity with a policy of service at cost to the customer, refunds by cash or credit were made during the year in many municipalities from surplus funds accrued to the credit of municipal services, such as street lighting, water works, sewage disposal, etc., and to individual customers. The amounts of the accumulated surpluses rebated equalled, in different municipalities, from one-twelfth to one-third of the previous year's revenue. The total thus returned to customers during the year 1933 amounted in round figures to $240,000.00.

In each case the balance sheets are complete and final, and include the adjustments between the estimated and actual costs of power to the municipality.

The reserves for depreciation, and the acquired equity in the Hydro-Electric Power Commission's systems, are listed individually and totalled; and under the heading "surplus" are included not only the free operating surplus but the accumulation of sinking fund applicable to debenture debt and also the amount of debentures already retired out of revenue.

The depreciation reserve now amounts to 20.18 per cent of the total depreciable plant, while the depreciation reserve and surplus combined have already reached the sum of $57,688,737.92, approximately 63.26 per cent of the total plant cost.

Statement "B" shows detailed operating reports for each municipal electrical utility. It gives annual revenues from the various classes of consumers; the items of expenditure which make up the total annual expenditure and the sums set aside for depreciation. The population served by each local utility, and the number of consumers of each class are also shown.

The item "power purchased" in this statement includes the debit or credit balances ascertained by the annual adjustment of the cost of power supplied to the municipalities by the Commission.

Of the 282 municipal electric utilities included in this statement, 171 received from consumers revenue sufficient to meet in full all operating expenses, interest, debt retirement instalments, and standard depreciation reserve allocation and to yield an aggregate net surplus of $306,522.71 for the year; 75 were able to defray out of revenue all such charges except a portion of the standard depreciation allocation aggregating $613,701.11; in the case of 36 utilities the revenue was less than the total of operating expenses, interest and debt retirement instalments by $95,258.10.

Statement "C" shows the installation of street lights in each municipality together with the rates approved by this Commission, the revenue for 1933, and the cost per capita in each municipality.

Statement "D" presents statistics relating to the supply of electrical energy to consumers in Ontario municipalities served by the Commission. It shows the revenue, kilowatt-hour consumption, number of consumers, average monthly consumption, average monthly bill and the net average cost per kilowatt-hour both for domestic and for commercial light service in each municipality. For power service this statement shows the revenue, the number of consumers and the average horsepower supplied by the municipal utility.* For further reference to this informative statement, consult the special introduction to it on page 406.

Statement "E" presents the cost per horsepower of the power provided for and delivered to the municipalities by the Commission, and the local rates to consumers in force in the respective municipalities, during the year 1933, for domestic service, for commercial light service and for power service.

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*The statistics include retail power only. Wholesale industrial power as supplied by the Commission direct, is reported in Section IX.

NOTE: In 1933–34, the Ontario Municipal Electric Association requested information respecting the remuneration paid certain members of the staff, and in this connection it was stated that for this year the information would be placed in the Municipal section of the Annual Report.

The Commission retains out of the salary of its employees an amount to provide for Pension and Insurance. After such deduction the present (1933-1934) yearly remuneration to the following members of the staff as requested is:—F. A. Gaby, $29,070.00; I. B. Lucas, $10,895.04; W. W. Pope, $8,707.44; T. H. Hogg, $13,520.04; E. T. J. Brandon, $12,470.04; R. T. Jeffery, $10,895.04; W. R. Robertson, $6,695.04; H. C. Don Carlos, $10,895.04; W. G. Pierdon, $10,895.04; A. E. Davison, $5,532.72; W. P. Dobson, $6,170.04; B. O. Salter, $5,090.04; A. V. Trimble, $10,695.00; A. V. White, $9,142.08. The present remuneration of the Chairman is $13,175.04 and Commissioners $7,975.08.

CONSOLIDATED

YEAR	1913	1914	1915
Number of municipalities included	45	69	99
ASSETS	$ c.	$ c.	$ c.
Lands and buildings	626,707.34	791,732.20	873,838.18
Substation equipment	1,090,875.69	1,476,087.84	1,582,062.56
Distribution system—overhead	2,690,834.74	3,422,763.93	4,234,626.05
Distribution system—underground	644,514.24	807,153.53	928,420.77
Line transformers	615,546.20	787,613.52	981,754.70
Meters	840,606.64	1,172,475.11	1,418,165.08
Street lighting equipment—regular	900,614.80	1,071,255.37	1,309,628.49
Street lighting equipment—ornamental	62,765.34	270,386.55	197,644.82
Miscellaneous construction expenses	866,551.89	2,062,035.90	1,701,182.66
Steam or hydraulic plant	1,401,175.28	420,108.33	461,651.60
Old plant	341,277.00	619,513.12	1,184,372.86
Total plant	10,081,469.16	12,901,125.40	14,873,347.77
Bank and cash balance	450,887.97	422,350.12	284,653.96
Securities and investments			
Accounts receivable	344,487.95	561,873.08	602,920.69
Inventories	540,274.58	615,226.76	726,556.76
Sinking fund on local debentures	431,747.27	625,217.03	868,983.78
Equity in H-E-P.C. systems			
Other assets	58,959.93	123,410.97	326,801.11
Total assets	11,907,826.86	15,249,203.36	17,683,264.07
LIABILITIES			
Debenture balance	8,711,308.37	10,678,078.36	11,831,811.03
Accounts payable	1,553,711.45	1,682,150.29	2,040,038.01
Bank overdraft	160,919.16	228,622.50	292,106.44
Other liabilities	42,412.81	113,838.66	37,388.31
Total liabilities	10,468,351.79	12,702,689.81	14,201,343.79
RESERVES			
For equity in H-E.P.C. systems			
For depreciation	478,145.88	850,618.07	1,337,739.73
Other reserves			
Total reserves	478,145.88	850,618.07	1,337 739.73
SURPLUS			
Debentures paid	202,751.26	320,129.10	394,466.22
Local sinking fund	431,747.27	625,217.03	868,983.78
Operating surplus	326,830.66	750,549.35	880,730.55
Total surplus	961,329.19	1,695,895.48	2,144,180.55
Total liabilities, reserves and surplus	11,907,826.86	15,249,203.36	17,683,264.07
Percentage of net debt to total assets	88.0	88.3	80.3

NOTE.—In computing the percentage of net debt to total assets the sinking fund on local debentures and equity in H-E.P.C. systems are excluded from assets, and total liabilities are reduced by amount of local sinking fund.

BALANCE SHEET

1916	1917	1918	1919	1920	1921
128	143	166	191	195	215
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,335,936.33	1,546,241.41	1,859,888.69	1,995,545.83	2,175,568.24	3,230,985.63
1,934,626.12	2,471,293.82	2,820,488.70	2,915,125.56	3,231,050.80	5,403,689.90
4,832,353.27	6,090,073.42	6,627,237.39	7,445,820.31	8,579,881.49	8,397,361.48
1,095,709.62	1,157,059.90	1,216,288.59	1,206,296.88	1,313,369.29	1,401,135.97
1,179,132.07	1,483,839.44	1,772,691.35	2,073,113.45	2,560,581.59	3,077,649.83
1,711,299.49	1,999,095.48	2,238,143.70	2,587,566.32	3,053,135.20	3,552,076.79
1,251,057.13	1,237,734.69	1,200,625.65	1,206,638.71	1,269,006.98	1,335,997.13
306,388.95	361,975.74	531,502.61	546,497.68	557,678.13	610,586.70
2,059,263.42	2,184,015.84	2,395,096.50	2,530,101.08	2,697,636.12	3,030,134.16
864,500.01	896,753.20	214,575.75	986,200.57	757,194.47	704,848.46
759,748.66	649,852.51	1,476,413.00	805,959.89	864,298.39	912,388.55
17,330,015.07	20,077,935.45	22,352,951.93	24,298,866.28	27,059,400.70	31,656,854.60
1,061,029.90	340,026.50	391,194.91	462,437.23	943,858.12	900,842.34
....	....	....	627,076.53	341,855.88	477,678.69
695,152.23	1,285,097.33	1,124,018.44	1,921,166.69	2,022,538.88	2,155,788.62
764,504.59	1,261,398.36	972,996.96	1,032,569.75	1,400,671.89	1,504,596.28
1,166,017.73	1,337,578.96	1,663,298.05	1,925,455.77	2,244,004.34	2,541,718.35
....	....	....	369,071.89	577,584.06	795,570.51
342,215.87	125,240.05	444,787.63	86,216.05	25,447.07	78,929.84
21,358,935.39	24,427,276.65	26,949,247.92	30,722,860.19	34,615,360.94	40,111,979.23
15,058,641.57	15,593,773.61	17,209,217.70	18,133,462.44	19,268,072.04	21,619,220.99
969,187.75	1,537,669.11	1,007,727.79	1,420,926.66	1,840,137.54	1,887,567.93
178,413.26	886,177.94	576,816.49	403,235.57	514,671.99	989,099.98
491,874.90	429,104.20	350,013.21	670,271.90	642,293.65	938,368.84
16,698,117.48	18,446,724.86	19,143,775.19	20,627,896.57	22,265,175.22	25,434,257.74
....	....	....	373,871.89	577,584.06	800,249.05
1,843,804.68	2,463,723.83	3,133,550.17	3,750,162.28	4,788,645.03	5,491,858.93
....	....	....	....	....	....
1,843,804.68	2,463,723.83	3,133,550.17	4,124,034.17	5,366,229.09	6,292,107.98
549,778.59	694,797.90	920,076.56	1,328,657.68	1,440,156.52	1,860,079.53
1,165,785.94	1,340,615.38	1,662,602.69	1,754,020.37	2,246,474.47	2,541,718.35
1,101,448.70	1,481,414.68	2,089,243.31	2,888,251.40	3,297,325.64	3,983,815.63
2,817,013.23	3,516,827.96	4,671,922.56	5,970,929.45	6,983,956.63	8,385,613.51
21,358,935.39	24,427,276.65	26,949,247.92	30,722,860.19	34,615,360.94	40,111,979.23
78.4	75.5	71.0	67.9	65.4	64.7

CONSOLIDATED

YEAR	1922	1923	1924
Number of municipalities included	226	235	248
ASSETS	$ c.	$ c.	$ c.
Lands and buildings	3,334,522.68	4,488,054.93	4,561,648.92
Substation equipment	5,046,857.98	6,015,919.75	6,800,238.00
Distribution system—overhead	11,165,330.24	13,135,581.76	14,182,190.33
Distribution system—underground	1,598,053.02	1,959,120.41	2,873,446.13
Line transformers	3,618,684.73	4,211,655.89	4,456,669.02
Meters	4,033,689.52	4,548,933.73	5,149,629.71
Street lighting equipment—regular	1,419,016.05	1,061,473.85	1,134,491.77
Street lighting equipment—ornamental	666,084.50	708,431.22	728,298.08
Miscellaneous construction expenses	3,261,495.74	3,681,274.88	4,168,262.21
Steam or hydraulic plant	565,158.54	566,619.86	4,196,803.45
Old plant	7,997,947.87	8,051,496.28	5,587,420.31
Total plant	42,706,840.87	48,428,562.56	53,839,097.93
Bank and cash balance	1,164,336.24	1,276,140.06	1,748,912.34
Securities and investments	443,938.18	1,153,424.47	1,329,622.58
Accounts receivable	3,874,317.14	3,198,769.34	3,898,751.89
Inventories	1,738,795.96	1,819,711.62	1,745,628.16
Sinking fund on local debentures	3,416,231.45	3,896,261.28	4,520,723.06
Equity in H-E.P.C. systems	1,543,434.12	2,929,603.94	5,420,567.58
Other assets	238,940.13	190,071.63	250,292.77
Total assets	55,126,834.09	62,892,544.90	72,753,596.31
LIABILITIES			
Debenture balance	30,454,186.12	33,056,501.29	38,005,162.50
Accounts payable	3,699,292.52	3,708,781.76	3,117,224.08
Bank overdraft	456,706.69	680,714.59	162,100.71
Other liabilities	586,203.02	1,517,828.47	1,780,564.27
Total liabilities	35,196,388.35	38,963,826.11	43,065,051.56
RESERVES			
For equity in H-E.P.C. systems	1,543,434.12	2,929,603.94	5,420,567.58
For depreciation	6,512,813.92	7,328,858.69	8,097,834.68
Other reserves	....	....	....
Total reserves	8,056,248.04	10,258,462.63	13,518,402.26
SURPLUS			
Debentures paid	3,104,591.15	2,852,038.38	3,530,610.35
Local sinking fund	3,416,231.45	3,896,261.28	4,520,723.06
Operating surplus	5,353,375.10	6,921,956.50	8,118,809.08
Total surplus	11,874,197.70	13,670,256.16	16,170,142.49
Total liabilities, reserves and surplus	55,126,834.09	62,892,544.90	72,753,596.31
Percentage of net debt to total assets	63.3	62.6	61.4

BALANCE SHEET—Continued

1925	1926	1927	1928	1929	1930
247	251	252	256	260	267
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
5,768,855.99	6,111,162.54	6,486,426.89	7,024,646.76	7,469,451.46	7,936,974.31
8,543,166.55	9,505,501.77	15,088,905.14	16,866,186.21	18,102,792.13	19,485,056.28
16,837,535.57	18,654,240.54	16,689,462.41	17,688,050.68	18,108,016.82	19,220,326.48
3,388,837.09	3,689,569.95	3,278,382.58	3,559,288.16	4,823,369.60	4,932,189.05
5,079,754.23	5,538,605.24	5,985,521.37	6,549,674.64	7,312,742.17	7,953,090.23
5,533,483.92	5,963,162.51	6,346,660.59	6,839,802.90	7,405,478.91	7,840,948.07
1,256,916.53	1,309,608.30	1,399,314.06	1,486,646.24	1,594,183.25	1,780,785.67
893,186.48	1,103,660.23	1,184,035.82	1,203,706.65	1,458,349.64	1,520,891.01
4,485,110.96	3,456,777.71	3,360,671.09	3,394,626.92	3,483,487.78	3,996,747.77
568,912.49	628,909.57	607,320.00	619,880.93	489,097.57	139,587.28
4,549,142.46	4,655,422.59	5,095,555.90	5,032,089.26	5,093,378.75	5,322,690.14
56,904,902.27	60,616,620.95	65,522,255.85	70,264,599.35	75,340,348.08	80,129,286.29
1,700,145.30	2,136,290.79	3,014,832.48	1,342,367.07	858,733.68	2,722,250.12
1,095,662.92	1,400,316.43	1,696,237.66	1,837,140.51	2,001,088.81	1,909,439.11
3,417,558.86	3,508,817.87	3,715,770.72	4,097,446.13	4,683,201.97	4,481,006.92
1,711,504.13	1,397,667.83	1,412,729.41	1,220,186.10	1,365,033.58	1,242,994.51
5,202,451.70	5,599,675.01	6,398,909.77	7,071,273.69	7,753,613.88	8,396,255.47
7,551,588.70	8,046,868.53	10,143,205.66	12,326,097.56	14,754,865.40	17,346,372.44
137,280.05	33,151.81	31,942.45	153,275.04	152,260.86	173,030.05
77,721,093.93	82,739,409.22	91,935,884.00	9,8312,385.45	106,909,146.26	116,400,634.91
37,919,225.01	39,602,533.48	42,891,361.57	42,597,175.78	42,930,127.74	45,091,808.06
3,139,067.92	3,118,684.78	2,988,621.90	3,074,634.25	3,132,145.03	3,001,186.21
226,147.82	163,725.53	252,362.52	253,143.81	412,056.69	405,663.14
1,075,914.83	1,087,795.08	1,154,810.24	1,258,610.23	1,621,378.17	1,642,771.59
42,360,355.58	43,972,738.87	47,287,156.23	47,183,564.07	48,095,707.63	50,141,429.00
7,551,588.70	8,046,868.53	10,143,205.66	12,326,097.56	14,754,865.40	17,346,372.44
8,699,437.68	9,360,322.27	10,319,889.05	11,140,795.68	11,911,154.49	12,885,387.51
1,157,147.20	947,970.23	1,002,916.69	1,117,257.63	1,437,371.26	1,574,655.74
17,408,173.58	18,355,161.03	21,466,011.40	24,584,150.87	28,103,391.15	31,806,415.69
4,440,138.34	5,493,879.83	6,648,767.38	7,928,907.61	9,194,253.59	10,728,279.15
5,202,451.70	5,599,675.01	6,398,909.77	7,071,273.69	7,962,121.20	8,396,255.47
8,309,974.73	9,317,954.48	10,135,039.22	11,544,489.21	13,553,672.69	15,328,255.60
17,952,564.77	20,411,509.32	23,182,716.37	26,544,670.51	30,710,047.48	34,452,790.22
77,721,093.93	82,739,409.22	91,935,884.00	98,312,385.45	106,909,146.26	116,400,634.91
57.2	55.5	54.2	50.8	47.8	46.0

CONSOLIDATED BALANCE SHEET—Concluded

YEAR	1931	1932	1933
Number of municipalities included	275	280	282
ASSETS	$ c.	$ c.	$ c.
Lands and buildings	8,407,664.48	9,503,743.78	10,186,471.28
Substation equipment	21,013,956.74	22,288,781.68	22,306,800.94
Distribution system—overhead	19,918,355.76	20,866,767.32	21,152,681.20
Distribution system—underground	5,361,627.24	5,820,056.75	5,945.225.61
Line transformers	8,649,875.07	9,392,662.62	9,478,605.14
Meters	8,106,202.88	8,403,251.67	8,514,165.03
Street lighting equipment—regular	2,205,613.18	2,257,618.20	2,381,599.40
Street lighting equipment—ornamental	1,456,742.91	1,545,354.93	1,458,443.68
Miscellaneous construction expenses	3,827,132.05	4,120,926.11	4,040,859.74
Steam or hydraulic plant	458,374.05	498,231.69	502,978.62
Old plant	7,146,437.96	4,989,654.97	5,016,755.92
Other plants not distributed	....	200,000.00	200,000.00
Total plant	86,551,982.32	89,887,049.72	91,184,586.56
Bank and cash balance	2,738,319.67	3,185,442.00	1,696,489.24
Securities and investments	1,999,846.42	2,059,325.10	2,163,785.20
Accounts receivable	3,957,972.78	3,683,059.42	3,746,910.92
Inventories	1,276,531.01	1,232,209.52	1,226,043.30
Sinking fund on local debentures	8,735,050.84	9,099,210.61	9,386,176.58
Equity in H-E.P.C. systems	20,103,275.76	23,066,129.81	26,045,679.00
Other assets	174,879.28	163,637.79	253,581.84
Total assets	125,537,858.08	132,376,063.97	135,703,252.64
LIABILITIES			
Debenture balance	44,594,400.03	45,133,305.97	42,606,145.29
Accounts payable	5,382,306.13	3,512,724.58	3,320,485.45
Bank overdraft	312,575.54	298,910.20	206,398.00
Other liabilities	1,909,986.13	3,740,376.11	3,787,725.14
Total liabilities	52,199,267.83	52,685,316.86	49,920,753.88
RESERVES			
For equity in H-E.P.C. systems	20,103,275.76	23,066,129.81	26,045,679.00
For depreciation	13,748,049.68	14,902,177.02	16,075,959.28
Other reserves	1,693,129.83	1,902,308.64	2,048,081.84
Total reserves	35,544,455.27	39,870,615.47	44,169,720.12
SURPLUS			
Debentures paid	13,150,040.37	15,244,778.28	17,651,367.71
Local sinking fund	8,735,050.84	9,099,210.61	9,386,176.58
Operating surplus	15,909,043.77	15,476,142.75	14,575,234.35
Total surplus	37,794,134.98	39,820,131.64	41,612,778.64
Total liabilities, reserves and surplus	125,537,858.08	132,376,063.97	135,703,252.64
Percentage of net debt to total assets	44.1	43.4	39.5

NOTE.—In computing the percentage of net debt to total assets the sinking fund on local debentures and equity in H-E.P.C. systems are excluded from assets, and total liabilities are reduced by the amount of local sinking fund.

CONSOLIDATED OPERATING REPORT

YEAR	1912	1913	1914	1915
Number of municipalities included	28	45	69	99
EARNINGS	$ c.	$ c.	$ c.	$ c.
Domestic service		572,154.38	789,130.81	944,271.08
Commercial light service		525,438.16	673,803.92	720,209.26
Commercial power service		905,378.17	1,214,829.31	1,501,797.78
Municipal power				
Street lighting		560,925.56	698,409.71	835,970.87
Rural service				
Miscellaneous		53,543.24	57,482.41	68,046.29
Total earnings	1,617,674.00	2,617,439.51	3,433,656.16	4,070,295.28
EXPENSES				
Power purchased		789,632.87	1,045,752.65	1,484,666.00
Substation operation		78,394.81	97,658.90	107,607.31
Substation maintenance		18,698.46	31,790.99	25,935.56
Distribution system, operation and maintenance		104,114.51	130,998.65	154,409.71
Line transformer maintenance		8,547.61	11,764.32	11,508.92
Meter maintenance		5,222.19	9,536.07	12,899.14
Consumers' premises expenses		53,108.38	65,192.23	47,494.26
Street lighting, operation and maintenance		84,903.76	113,047.80	136,983.38
Promotion of business		72,303.51	86,683.02	74,402.55
Billing and collecting		77,351.76	103,560.71	131,541.27
General office, salaries and expenses		154,932.69	230,899.75	236,777.86
Undistributed expense		65,423.64	89,350.91	129,209.15
Interest		528,549.21	662,092.34	817,978.89
Sinking fund and principal payments on debentures		*	*	*
Total expenses	1,377,168.00	2,041,183.40	2,678,328.34	3,371,414.00
Surplus	240,506.00	576,256.11	755,327.82	698,881.28
Depreciation charge	124,992.47	262,675.24	357,883.31	414,506.99
Surplus less deprecation	115,513.53	313,580.87	397,444.51	284,374.29

*Debenture payments included in "Interest."

CONSOLIDATED

YEAR	1916	1917	1918
Number of municipalities included	128	143	166
EARNINGS	$ c.	$ c.	$ c.
Domestic service	1,172,878.96	1,417,460.31	1,632,272.12
Commercial light service	812,130.78	899,023.72	968,399.42
Commercial power service	1,921,152.31	2,665,280.65	3,417,248.37
Municipal power	....	....	....
Street lighting	930,057.48	967,495.10	902,875.55
Rural service	....	....	....
Miscellaneous	147,381.50	120,805.39	161,243.70
Total earnings	4,983,601.03	6,070,065.17	7,082,039.16
EXPENSES			
Power purchased	1,959,446.83	2,573,879.37	2,807,769.33
Substation operation	153,761.08	203,091.20	238,257.34
Substation maintenance	46,131.53	42,129.04	60,805.92
Distribution system, operation and maintenance	154,247.17	169,326.24	223,347.81
Line transformer maintenance	14,528.17	25,328.95	30,488.83
Meter maintenance	24,218.48	44,461.55	63,155.56
Consumers' premises expenses	52,602.01	61,765.14	65,149.59
Street lighting, operation and maintenance	145,471.50	157,857.73	196,157.18
Promotion of business	79,324.85	73,516.37	64,962.78
Billing and collecting	154,508.58	188,083.84	208,660.76
General office, salaries and expenses	306,709.35	349,932.05	421,680.15
Undistributed expense	97,333.97	102,938.80	117,474.07
Interest	951,781.99	1,085,180.80	1,238,425.53
Sinking fund and principal payments on debentures	*	*	*
Total expenses	4,140,065.51	5,077,491.08	5,736,334.85
Surplus	843,535.52	992,574.09	1,345,704.31
Depreciation charge	486,141.80	607,296.29	718,162.30
Surplus less depreciation	357,393.72	385,277.80	627,542.01

*Debenture payments included in "Interest."

OPERATING REPORT—Continued

1919	1920	1921	1922	1923	1924
181	186	205	214	224	241
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1,991,632.31	2,546,345.30	3,149,080.03	3,786,608.23	5,166,452.24	5,993,231.07
1,175,143.56	1,512,854.63	1,851,501.76	2,158,306.34	3,260,772.50	3,566,227.22
3,443,107.13	3,752,188.22	3,895,437.46	4,383,912.97	5,927,666.37	6,222,865.88
....	532,279.09	654,531.01	973,263.38	1,161,598.60	1,352,966.47
988,900.95	1,005,535.11	1,060,357.77	1,160,446.81	1,269,604.48	1,356,668.97
....	168,919.95	145,566.57	105,877.09	116,639.06	75,100.24
228,270.65	189,778.63	225,467.70	187,689.39	316,311.21	231,663.58
7,827,054.60	9,707,900.93	10,981,942.30	12,756,104.21	17,219,044.46	18,798,723.43
3,284,490.68	4,216,667.87	4,876,650.31	6,636,853.37	8,699,026.67	9,669,789.40
217,638.89	285,407.35	314,838.35	315,443.70	474,442.13	430,056.09
81,853.63	102,050.81	104,798.01	100,763.67	133,815.53	202,050.04
286,310.76	344,551.57	487,918.33	519,252.16	636,477.41	648,700.62
42,509.12	46,323.09	65,088.46	52,932.26	75,920.10	82,936.50
78,726.64	123,701.18	116,722.97	107,806.88	139,104.81	141,231.23
84,301.24	116,283.52	134,854.92	143,388.88	218,682.02	237,316.20
215,963.86	236,930.79	297,481.52	297,363.86	299,579.08	269,973.30
74,789.22	78,294.85	101,804.46	129,932.63	184,371.00	202,060.74
236,504.75	295,942.88	321,685.71	338,153.50	444,306.92	490,273.30
452,131.22	559,695.29	656,268.11	605,852.50	937,463.47	889,907.66
190,690.09	256,400.33	308,874.42	385,895.03	359,206.91	494,078.50
1,285,571.51	1,431,807.16	998,611.47	1,074,657.44	1,615,205.16	1,779,991.26
*	*	532,183.96	635,469.90	990,907.14	1,122,798.87
6,531,481.61	8,094,056.69	9,317,781.00	11,343,765.78	15,208,508.35	16,661,163.71
1,295,572.99	1,613,844.24	1,664,161.30	1,412,338.43	2,010,536.11	2,137,559.72
814,219.37	902,028.75	1,044,434.85	715,814.24	916,782.75	973,649.62
481,353.62	711,815.49	619,726.45	696,524.19	1,093,753.36	1,163,910.10

CONSOLIDATED

YEAR	1925	1926	1927
Number of municipalities included	242	248	251
EARNINGS	$ c.	$ c.	$ c.
Domestic service	6,439,159.86	7,372,602.62	8,189,866.89
Commercial light service	3,866,292.79	4,187,899.19	4,626,815.51
Commercial power service	6,568,854.77	6,789,217.54	7,342,173.20
Municipal power	1,923,093.09	1,922,512.34	1,913,502.88
Street lighting	1,415,382.22	1,457,686.21	1,489,242.37
Rural service	37,975.18	37,810.73	13,765.72
Miscellaneous	286,451.08	471,134.15	581,913.04
Total earnings	20,537,208.99	22,238,862.78	24,157,279.61
EXPENSES			
Power purchased	11,063,123.34	12,185,669.10	13,505,583.77
Substation operation	417,921.71	450,416.84	430,211.76
Substation maintenance	207,497.63	286,520.37	275,148.86
Distribution system, operation and mainance	686,344.54	795,514.70	758,747.10
Line transformer maintenance	75,473.28	74,876.11	94,706.38
Meter maintenance	156,909.55	189,603.70	214,813.87
Consumers' premises expenses	252,808.47	275,020.62	285,352.68
Street lighting, operation and maintenance	275,316.60	295,869.37	318,395.79
Promotion of business	217,102.24	234,696.74	220,687.60
Billing and collecting	521,134.01	557,271.54	605,627.58
General office, salaries and expenses	891,640.29	786,742.60	824,868.90
Undistributed expense	520,584.58	460,288.30	531,003.80
Truck operation and maintenance	....	....	....
Interest	1,889,810.95	1,985,233.73	2,063,698.00
Sinking fund and principal payments on debentures	1,294,027.29	1,347,511.92	1,505,626.31
Total expenses	18,469,694.48	19,925,235.64	21,634,472.40
Surplus	2,067,514.51	2,313,627.14	2,522,807.21
Depreciation charge	1,068,880.42	1,146,273.05	1,249,711.65
Surplus less depreciation	998,634.09	1,167,354.09	1,273,095.56

OPERATING REPORT—Concluded

1928	1929	1930	1931	1932	1933
255	259	267	275	280	282
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
8,925,050.56	9,873,681.57	10,542,903.89	10,972,952.10	11,447,307.85	11,429,101 13
5,182,723.32	5,697,766.06	5,961,383.23	6,230,475.89	6,243,794.01	6,013,025.96
8,298,669.44	9,376,158.74	9,340,653.28	9,456,224.97	9,356,693.88	9,080,522.07
1,921,300.97	2,086,444.24	2,111,482.38	1,967,118.54	1,859,585.35	1,826,872 07
1,534,476.98	1,598,262.43	1,674,528.03	1,746,855.24	1,783,972.46	1,779,582.48
48,451.90*	51,590.54*	28,954.60*	29,446.38*	11,069.27*	*12,812.74
465,791.92	522,780.95	581,914.78	511,139.80	513,787.30	485,925.43
26,376,465.09	29,206,684.53	30,241,820.19	30,914,212.92	31,216,210.12	30,627,841.88
14,688,570.08	16,379,162.88	17,323,077.97	18,085,166.51	19,109,036.25	19,330,861.58
420,512.48	461,270.27	479,502.48	487,484.17	503,351.82	484,764.57
247,647.88	274,275.56	320,716.48	303,536.11	300,186.15	288,583.29
736,159.85	907,817.04	991,972.86	1,015,256.14	969,750.61	895,350.99
88,676.18	93,608.14	96,746.35	93,463.24	95,485.55	82,321.32
218,530.96	242,126.27	278,379.43	284,633.88	300,104.85	283,115.98
291,333.03	314,495.03	317,902.45	363,078.47	368,208.73	361,499.20
329,597.16	359,373.40	372,211.17	368,119.49	360,709.76	353,082.15
249,842.01	250,844.28	249,070.05	255,956.03	266,760.84	259,936.42
638,797.02	695,729.42	745,159.02	792,983.99	818,721.33	817,660.03
844,578.55	904,025.64	907,226.89	923,676.84	960,558.88	908,517.79
542,755.34	502,206.06	523,862.96	520,893.10	436,692.96	349,101.36
....	110,630.62	112,029.82	107,918.93	112,059.90	105,452.68
2,111,049.49	2,152,695.49	2,220,214.45	2,328,094.32	2,532,940.93	2,426,286.35
1,601,711.32	1,687,201.64	1,828,061.62	2,061,718.79	2,244,367.86	2,319,319.09
23,009,761 35	25,335,461.74	26,766,134.00	27,991,980.01	29,378,936.42	31,254,853.21
3,366,703.74	3,871,222.79	3,475,686.19	2,922,232.91	1,837,273.70	1,361,989.08
1,350,252.16	1,469,846.83	1,574,991.68	1,775,330.69	1,920,896.22	1,989,000.41
2,016,451.58	2,401,375.96	1,900,694.51	1,146,902.22	83,622.52 (loss)	627,011.33 (loss)

*Profits from the sale of merchandise. Rural service now given in "Rural Power Districts." Consult Section IX.

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA
SYSTEM

Municipality Population	Acton 1,895	Agincourt P.V.	Ailsa Craig 464	Alvinston 690	Amherstburg 3,086
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	1,545.45	....	....	133.56	....
Substation equipment	1,847.39	....	....	....	932.00
Distribution system—overhead	23,482.38	8,481.56	8,174.03	14,008.12	33,614.83
Distribution system—underground	....	....	....	....	....
Line transformers	11,302.83	3,686.18	1,946.95	3,024.48	15,917.83
Meters	10,472.15	2,479.55	2,571.67	2,972.37	15,219.85
Street light equipment, regular	1,880.04	767.19	404.09	1,090.62	812.44
Street light equipment, ornamental	....	....	....	....	5,598.72
Miscellaneous construction expense	2,620.49	104.85	492.36	791.52	1,600.27
Steam or hydraulic plant	....	....	....	....	....
Old plant	3,481.50	....	....	773.85	....
Other plants not distributed	....	....	....	....	....
Total plant	56,632.23	15,519.33	13,589.10	22,794.52	73,695.94
Bank and cash balance	3,137.53	2,511.49	3,205.11	282.09	7,440.26
Securities and investments	1,500.00	1,000.00	5,000.00	2,000.00	1,898.30
Accounts receivable	592.60	1,139.69	39.15	456.09	2,437.20
Inventories	818.04	2.04	....	....	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	34,576.27	5,182.99	9,541.72	9,622.20	27,567.04
Other assets	589.02	....	....	....	3,140.64
Total assets	97,845.69	25,355.54	31,375.08	35,154.90	116,179.38
Deficit	....	....	....	3,814.05	....
Total	97,845.69	25,355.54	31,375.08	38,968.95	116,179.38
LIABILITIES					
Debenture balance	....	3,433.73	....	12,450.39	25,176.10
Accounts payable	13.13	583.80	200.65	916.90	....
Bank overdraft	....	....	....	....	....
Other liabilities	542.09	....	92.00	....	7,144.27
Total liabilities	555.22	4,017.53	292.65	13,367.29	32,320.37
RESERVES					
For equity in H-E.P.C. systems	34,576.27	5,182.99	9,541.72	9,622.20	27,567.04
For depreciation	9,654.09	1,530.63	5,174.27	4,900.61	14,021.84
Other reserves	....	....	....	....	....
Total reserves	44,230.36	6,713.62	14,715.99	14,522.81	41,588.88
SURPLUS					
Debentures paid	14,500.00	4,638.92	6,883.38	11,078.85	6,877.50
Local sinking fund	....	....	....	....	....
Operating surplus	38,560.11	9,985.47	9,483.06	....	35,392.63
Total surplus	53,060.11	14,624.39	16,366.44	11,078.85	42,270.13
Total liabilities, reserves and surplus	97,845.69	25,355.54	31,375.08	38,968.95	116,179.38
Percentage of net debt to total assets	0.8	19.9	1.3	52.4	32.2

"A"

Hydro Municipalities as at December 31, 1933

Ancaster Twp.	Arkona 416	Aylmer 1,989	Ayr 768	Baden P.V.	Beachville P.V.	Belle River 746	Blenheim 1,690
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
...	...	9,019.23	125.00	660.64	176.13	...	...
...	...	...	...	...	...	...	909.64
15,858.22	9,559.67	20,733.69	12,440.57	7,474.60	13,922.72	16,266.23	25,681.74
...	...	...	...	...	...	...	...
10,236.49	1,976.44	10,356.91	3,850.56	4,048.22	3,550.21	3,651.15	8,123.02
4,202.68	1,549.36	9,591.53	3,580.79	2,872.74	3,142.06	3,683.98	9,116.00
1,269.78	671.60	1,723.79	628.42	447.45	423.23	924.29	3,367.96
...	...	...	...	...	...	...	1,482.97
324.93	225.47	1,130.33	941.79	...	602.04	1,043.78	1,128.43
...	...	...	...	...	...	...	...
...	1,030.30	6,719.17	4,002.53	...	...	...	...
...	...	...	...	...	...	...	...
31,892.10	15,012.84	59,274.65	25,569.66	15,503.65	21,816.39	25,569.43	49,809.76
...	88.03	1,314.13	57.93	3,831.00	522.43	3,631.25	4,343.02
...	...	12,000.00	...	...	4,000.00	3,000.00	...
1,761.46	176.18	1,365.89	1,196.70	...	722.31	744.16	692.65
...	...	60.62	...	...	...	...	30.34
...	...	...	...	...	...	...	...
8,321.47	2,948.25	22,779.10	8,153.15	19,259.17	23,913.36	5,164.20	21,191.34
...	54.54	...	...	...	...	...	...
41,975.03	18,279.84	96,794.39	34,977.44	38,593.82	50,974.49	38,109.04	76,067.11
...	1,561.01	...	...	...	...	...	...
41,975.03	19,840.85	96,794.39	34,977.44	38,593.82	50,974.49	38,109.04	76,067.11
7,921.48	9,736.09	20,208.85	6,948.52	2,102.21	2,286.51	5,454.34	8,527.23
425.70	2,410.16	99.83	...	161.80	...	158.04	1,789.88
1,659.51	...	...	...	...	...	...	...
145.32	...	108.00	...	...	...	86.00	220.00
10,152.01	12,146.25	20,416.68	6,948.52	2,264.01	2,286.51	5,698.38	10,537.11
8,321.47	2,948.25	22,779.10	8,153.15	19,259.17	23,913.36	5,164.20	21,191.34
6,199.21	1,369.61	9,529.63	3,696.68	1,759.67	4,793.88	4,685.02	10,739.62
...	...	300.00	...	...	...	5,000.00	...
14,520.68	4,317.86	32,608.73	11,849.83	21,018.84	28,707.24	14,849.22	31,930.96
2,868.10	3,376.74	18,493.07	10,554.86	2,897.79	3,066.49	3,045.66	5,472.77
...	...	...	...	...	...	...	...
14,434.24	...	25,275.91	5,624.23	12,413.18	16,914.25	14,515.78	28,126.27
17,302.34	3,376.74	43,768.98	16,179.09	15,310.97	19,980.74	17,561.44	33,599.04
41,975.03	19,840.85	96,794.39	34,977.44	38,593.82	50,974.49	38,109.04	76,067.11
30.1	79.2	27.5	25.9	11.7	8.4	17.3	16.9

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Blyth	Bolton	Bothwell	Brampton	Brantford
Population	602	593	646	5,413	30,724
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings				5,081.32	85,595.31
Substation equipment				24,742.53	162,884.45
Distribution system—overhead	11,261.08	9,931.57	6,027.41	50,295.58	229,785.83
Distribution system—underground					6,000.00
Line transformers	2,441.35	4,296.34	2,575.37	28,005.83	112,926.91
Meters	1,945.31	2,958.86	2,819.97	26,131.27	115,872.40
Street light equipment, regular	1,284.19	856.19	4,634.70	2,645.94	24,010.22
Street light equipment, ornamental					41,476.69
Miscellaneous construction expense	284.97	1,050.06	550.01	18,405.35	30,529.82
Steam or hydraulic plant					
Old plant	2,332.68	1,554.60			
Other plants not distributed					200,000.00
Total plant	19,549.58	20,647.62	16,607.46	155,307.82	1,009,081.63
Bank and cash balance	1,173.22	895.96	2,475.99	2,400.28	
Securities and investments			11,000.00	5,648.78	
Accounts receivable	1,009.53	704.36	82.04	1,100.49	23,077.31
Inventories		22.41		223.66	11,344.36
Sinking fund on local debentures					90,906.83
Equity in H-E.P.C. systems	4,935.50	10,636.75	11,113 15	93,084.35	473,680.24
Other assets					47,506.37
Total assets	26,667.83	32,907.10	41,278.64	257,765.38	1,655,596.74
Deficit					
Total	26,667.83	32,907.10	41,278.64	257,765.38	1,655,596.74
LIABILITIES					
Debenture balance	9,006.10	6,013.66	3,045.38	12,794.35	263,000.00
Accounts payable	100.31	52.00	226.32	1,842.74	6,587.33
Bank overdraft					11,241.61
Other liabilities	50.00		1,161.22		166,542.06
Total liabilities	9,156.41	6,065.66	4,432.92	14,637.09	447,371.00
RESERVES					
For equity in H-E.P.C. systems	4,935.50	10,636.75	11,113.15	93,084.35	473,680.24
For depreciation	2,774.77	4,997.25	5,755.07	42,919.03	203,667.20
Other reserves				100.00	86,000.00
Total reserves	7,710.27	15,634.00	16,868.22	136,103.38	763,347.44
SURPLUS					
Debentures paid	7,262.93	6,486.34	2,488.81	56,256.29	267,000.00
Local sinking fund					90,906.83
Operating surplus	2,538.22	4,721.10	17,488.69	50,768.62	86,971.47
Total surplus	9,801.15	11,207.44	19,977.50	107,024.91	444,878.30
Total liabilities, reserves and surplus	26,667.83	32,907.10	41,278.64	257,765.38	1,655,596.74
Percentage of net debt to total assets	42.2	27.2	11.4	8.9	33.5

"A"—Continued

Hydro Municipalities as at December 31, 1933

Brantford Twp.	Bridgeport P.V.	Brigden P.V.	Brussels 770	Burford P.V.	Burgessville P.V.	Caledonia 1,400	Campbellville P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
...	...	101.03	...	202.00	...	...	...
1,192.71	...	...	...	...	...	...	...
52,268.73	9,516.09	7,090.80	13,562.61	9,240.38	3,490.03	17,022.28	2,978.42
...	...	...	...	...	...	...	...
16,784.09	3,833.06	2,037.61	2,395.35	2,933.19	1,390.44	6,432.74	718.23
11,884.39	2,217.15	2,238.85	3,810.08	3,374.95	966.40	6,232.50	567.30
4,338.80	1,602.69	464.90	1,574.74	425.14	261.02	1,582.94	258.56
...	...	...	...	...	...	...	...
2,922.09	563.56	858.11	1,572.29	717.31	457.22	692.59	45.82
...	...	...	...	...	...	...	...
...	...	1,381.00	2,827.50	...	...	...	...
...	...	...	...	...	...	...	...
89,390.81	17,732.55	14,172.30	25,742.57	16,892.97	6,565.11	31,963.05	4,568.33
6,741.22	300.27	475.66	3,959.91	1,884.70	560.08	1,638.23	525.63
...	...	...	...	4,000.00	...	2,000.00	1,000.00
405.19	241.36	473.04	838.83	571.36	107.09	20.65	268.67
...	...	...	24.48	...	...	...	...
3,326.87	...	...	...	...	...	...	...
15,720.56	2,607.10	7,049.89	6,968.52	7,656.25	3,190.64	12,346.64	860.46
...	...	...	...	25.00	...	...	...
115,584.65	20,881.28	22,170.89	37,534.31	31,030.28	10,422.92	47,968.57	7,223.09
...	...	...	...	...	...	...	...
115.584.65	20,881.28	22,170.89	37,534.31	31,030.28	10,422.92	47,968.57	7,223.09
23,408.79	11,914.39	902.89	13,245.52	382.11	560.39	1,780.41	3,593.44
3,272.61	698.27	...	1,847.51	4.60	220.22	701.06	33.14
...	...	...	...	...	...	...	...
1,443.25	40.00	...	...	25.00	...	...	...
28,124.65	12,652.66	902.89	15,093.03	411.71	780.61	2,481.47	3,626.58
15,720.56	2,607.10	7,049.89	6,968.52	7,656.25	3,190.64	12,346.64	860.46
17,690.56	4,458.60	3,072.84	4,010.41	4,050.20	2,229.03	3,949.40	676.54
...	...	...	...	...	85.41	...	...
33,411.12	7,065.70	10,122.73	10,978.93	11,706.45	5,505.08	16,296.04	1,537.00
33,716.87	453.64	7,097.11	7,754.48	8,617.89	2,939.61	2,843.59	1,854.33
3,326.87	...	...	...	...	...	...	...
17,005.14	709.28	4,048.16	3,707.87	10,294.23	1,197.62	26,347.47	205.18
54,048.88	1,162.92	11,145.27	11,462.35	18,912.12	4,137.23	29,191.06	2,059.51
115,584.65	20,881.28	22,170.89	37,534.31	31,030.28	10,422.92	47,968.57	7,223.09
25.6	69.2	5.9	49.4	1.7	10.8	6.9	57.0

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Cayuga	Chatham	Chippawa	Clifford	Clinton
Population	705	16,223	1,073	454	1,842
Assets	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings		46,055.45	631.50		8,760.82
Substation equipment		116,587.41			7,544.43
Distribution system—overhead	14,080.88	161,316.09	19,123.86	7,451.37	22,257.65
Distribution system—underground		79,554.42			
Line transformers	3,162.29	86,934.79	6,107.56	1,161.99	7,787.65
Meters	2,704.35	67,774.93	4,702.80	2,195.08	9,334.88
Street light equipment, regular	942.83	18,777.35	1,877.81	687.42	1,297.67
Street light equipment, ornamental		35,426.10			
Miscellaneous construction expense	474.44	33,016.43	1,139.19	37.44	3,846.29
Steam or hydraulic plant					
Old plant		42,752.31			10,658.09
Other plants not distributed					
Total plant	21,364.79	688,195.28	33,582.72	11,533.30	71,487.48
Bank and cash balance	2,141.86	17,934.82	421.83	400.44	1,991.97
Securities and investments					3,000.00
Accounts receivable	389.17	18,793.38	253.38	131.53	1,276.61
Inventories	131.34	3,703.83		20.40	2,230.83
Sinking fund on local debentures					32,589.70
Equity in H-E.P.C. systems	4,608.67	222,270.09	9,683.44	3,400.81	26,385.91
Other assets		3,604.51	194.56		
Total assets	28,635.83	954,501.91	44,135.93	15,486.48	138,962.50
Deficit					
Total	28,635.83	954,501.91	44,135.93	15,486.48	138,962.50
Liabilities					
Debenture balance	13,543.57	245,238.03	6,422.39	6,756.82	44,500.00
Accounts payable	851.67	23,289.92	32.01	373.14	495.93
Bank overdraft					
Other liabilities	35.00	39,030.61	190.00		175.81
Total liabilities	14,430.24	307,558.56	6,644.40	7,129.96	45,171.74
Reserves					
For equity in H-E.P.C. systems	4,608.67	222,270.09	9,683.44	3,400.81	26,385.91
For depreciation	3,035.70	108,582.98	6,469.01	1,657.34	20,000.45
Other reserves		4,974.96			670.39
Total reserves	7,644.37	335,828.03	16,152.45	5,058.15	47,056.75
Surplus					
Debentures paid	6,456.43	124,761.97	6,927.61	1,243.18	
Local sinking fund					32,589.70
Operating surplus	104.79	186,353.35	14,411.47	2,055.19	14,144.31
Total surplus	6,561.22	311,115.32	21,339.08	3,298.37	46,734.01
Total liabilities, reserves and surplus	28,635.83	954,501.91	44,135.93	15,486.48	138,962.50
Percentage of net debt to total assets	60.1	36.7	19.2	59.0	15.7

"A"—Continued

Hydro Municipalities as at December 31, 1933

Comber P.V.	Cottam P.V.	Courtright 348	Dashwood P.V.	Delaware P.V.	Dorchester P.V.	Drayton 559	Dresden 1,488
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	523.00
7,231.00	9,112.46	6,515.06	3,402.64	3,764.27	8,048.67	9,333.37	18,494.68
....	....	....	....	....	....	....	....
3,422.04	1,538.31	1,225.40	1,600.44	914.44	3,286.91	3,328.48	7,524.07
2,459.87	1,778.79	880.37	1,378.45	962.46	2,411.76	3,254.24	5,912.96
384.93	359.43	425.08	353.42	148.08	496.74	673.50	1,127.48
....	....	....	....	....	....	....	....
977.24	220.64	558.67	291.87	203.81	328.41	401.02	553.99
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	4,815.01
....	....	....	....	....	....	....	....
14,475.08	13,009.63	9,604.58	7,026.82	5,993.06	14,572.49	16,990.61	38,951.19
3,261.56	3,366.01	686.28	1,351.20	1,026.21	2,101.25	484.02	1,024.08
....	....	....	1,500.00	2,500.00	2,000.00	5,000.00	2,000.00
291.61	226.38	25.43	6.70	309.09	67.93	109.57	1,610.34
....	....	....	....	....	....	....	565.40
....	....	....	....	....	....	....	....
11,265.98	1,912.56	3,068.73	4,929.81	1,607.07	3,991.12	6,777.75	17,862.77
....	....	....	....	....	....	....	120.00
29,294.23	18,514.58	13,385.02	14,814.53	11,435.43	22,732.79	29,361.95	62,133.78
....	....	....	....	....	....	....	....
29,294.23	18,514.58	13,385.02	14,814.53	11,435.43	22,732.79	29,361.95	62,133.78
1,633.62	6,866.34	3,508.45	2,131.19	2,161.11	2,479.56	6,415.08	726.04
....	....	251.67	89.19	35.44	234.40	1,051.56	1,083.75
....	....	....	....	....	....	....	....
19.85	80.00	....	....	....	15.00	....	120.00
1,653.47	6,946.34	3,760.12	2,220.38	2,196.55	2,728.96	7,466.64	1,929.79
11,265.98	1,912.56	3,068.73	4,929.81	1,607.07	3,991.12	6,777.75	17,862.77
4,535.27	2,422.63	1,103.15	1,917.52	869.58	1,585.97	5,133.06	4,918.02
....	....	....	....	....	....	....	225.00
15,801.25	4,335.19	4,171.88	6,847.33	2,476.65	5,577.09	11,910.81	23,005.79
6,066.38	2,133.88	4,629.90	1,268.81	1,838.89	1,820.44	3,084.92	15,512.21
....	....	....	....	....	....	....	....
5,773.13	5,099.17	823.12	4,478.01	4,923.34	12,606.30	6,899.58	21,685.99
11,839.51	7,233.05	5,453.02	5,746.82	6,762.23	14,426.74	9,984.50	37,198.20
29,294.23	18,514.58	13,385.02	14,814.53	11,435.43	22,732.79	29,361.95	62,133.78
9.2	41.8	36.4	22.4	22.3	14.5	33.1	4.1

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Drumbo	Dublin	Dundas	Dunnville	Dutton
Population	P.V.	P.V.	5,138	3,615	761
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings			12,111.11	3,356.09	
Substation equipment			13,396.22	27,302.17	
Distribution system—overhead	4,552.59	5,787.61	50,052.10	36,699.01	9,086.84
Distribution system—underground					
Line transformers	1,537.50	897.65	19,610.94	18,110.09	3,425.25
Meters	1,863.92	874.11	19,427.63	15,836.44	3,297.10
Street light equipment, regular	262.27	544.86	10,834.15	8,012.37	626.14
Street light equipment, ornamental			1,154.52		
Miscellaneous construction expense	257.95	787.06	8,158.01	5,788.34	338.12
Steam or hydraulic plant					
Old plant			1,867.38	10,717.62	
Other plants not distributed					
Total plant	8,474.23	8,891.29	136,612.06	125,822.13	16,773.45
Bank and cash balance	2,878.65	269.38	11,192.92	35.00	
Securities and investments			1,500.00	10,000.00	6,000.00
Accounts receivable	294.88	229.23	4,375.02	7,493.12	430.27
Inventories	54.53		439.24	886.01	22.82
Sinking fund on local debentures					
Equity in H-E.P.C. systems	3,658.36	3,357.12	81,992.63	32,056.77	11,117.92
Other assets			2,084.98		120.17
Total assets	15,360.65	12,747.02	238,196.85	176,293.03	34,464.63
Deficit		671.75			
Total	15,360.65	13,418.77	238,196.85	176,293.03	34,464.63
LIABILITIES					
Debenture balance	2,431.53	1,345.99	25,859.07	49,929.04	4,758.84
Accounts payable	61.91	858.79	1,743.12	8,571.83	
Bank overdraft				2,394.44	87.61
Other liabilities			3,086.83	1,225.35	47.36
Total liabilities	2,493.44	2,204.78	30,689.02	62,120.66	4,893.81
RESERVES					
For equity in H-E.P.C. systems	3,658.36	3,357.12	81,992.63	32,056.77	11,117.92
For depreciation	2,933.41	3,002.86	41,922.00	24,741.85	5,650.56
Other reserves			350.52		
Total reserves	6,591.77	6,359.98	124,265.15	56,798.62	16,768.48
SURPLUS					
Debentures paid	2,068.47	4,854.01	27,140.93	25,570.96	3,648.65
Local sinking fund					
Operating surplus	4,206.97		56,101.75	31,802.79	9,153.69
Total surplus	6,275.44	4,854.01	83,242.68	57,373.75	12,802.34
Total liabilities, reserves and surplus	15,360.65	13,418.77	238,196.85	176,293.03	34,464.63
Percentage of net debt to total assets	21.3	23.4	18.9	43.0	20.9

"A"—Continued

Hydro Municipalities as at December 31, 1933

East Windsor 14,333	East York Twp.	Elmira 2,642	Elora 1,144	Embro 455	Erieau 264	Erie Beach 23	Essex 1,888
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	16,946.49	7,119.73	1,524.54	....	....	....	....
....	8,514.27	....	....	....	....	....	....
174,118.92	281,256.98	34,855.36	17,136.30	9,588.07	9,286.94	1,889.54	35,810.48
....	....	....	....	....	....	....	442.55
74,978.65	75,986.83	15,509.18	7,301.95	3,039.64	1,600.23	613.17	15,011.34
60,661.87	140,084.77	12,767.67	5,803.86	2,072.23	2,300.97	732.78	10,630.12
....	20,605.46	1,380.05	1,235.43	535.73	246.10	....	1,548.10
89,295.42	....	....	....	....	....	....	....
3,439.78	15,185.88	3,817.89	1,339.05	69.45	379.90	375.03	2,583.63
....	....	....	....	....	....	....	....
....	....	2,168.08	1,425.47	429.25	....	....	....
....	....	....	....	....	....	....	....
402,494.64	558,580.68	77,617.96	35,766.60	15,734.37	13,814.14	3,610.52	66,026.22
83,957.95	9,129.20	402.84	56.17	1,117.19	....	377.32	6,822.20
....	2,812.91	....	7,000.00	1,000.00	....	....	5,000.00
13,939.00	23,978.79	350.46	574.16	468.29	413.81	307.31	3,250.40
....	6,841.18	....	619.32	....	....	....	....
....	....	....	....	....	....	....	....
125,360.56	116,767.89	46,936.38	22,693.58	6,527.33	2,938.52	747.87	15,657.28
....	....	....	....	....	....	....	....
625,752.15	718,110.65	125,307.64	66,709.83	24,847.18	17,166.47	5,043.02	96,756.10
....	....	....	....	....	....	....	....
625,752.15	718,110.65	125,307.64	66,709.83	24,847.18	17,166.47	5,043.02	96,756.10
98,715.71	260,603.69	24,587.85	3,749.15	3,215.44	4,540.17	2,547.11	19,003.56
27,803.76	52,687.72	3,021.39	518.81	135.95	1,124.94	18.33	1,186.17
....	138.46	....	156.87	....	62.35	....	....
89,295.42	14,270.65	678.65	35.00	....	15.00	....	565.13
215,814.89	327,700.52	28,287.89	4,459.83	3,351.39	5,742.46	2,565.44	20,754.86
125,360.56	116,767.89	46,936.38	22,693.58	6,527.33	2,938.52	747.87	15,657.28
46,069.95	54,274.59	15,623.42	11,246.10	4,660.64	1,806.50	368.36	11,061.83
430.24	1,672.50	....	....	....	....	....	950.00
171,860.75	172,714.98	62,559.80	33,939.68	11,187.97	4,745.02	1,116.23	27,669.11
50,284.29	96,464.09	12,580.65	9,250.85	4,284.56	2,342.96	752.89	3,496.44
....	....	....	....	....	....	....	....
187,792.22	121,231.06	21,879.30	19,059.47	6,023.26	4,336.03	608.46	44,835.69
238,076.51	217,695.15	34,459.95	28,310.32	10,307.82	6,678.99	1,361.35	48,332.13
625,752.15	718,110.65	125,307.64	66,709.83	24,847.18	17,166.47	5,043.02	96,756.10
30.7	54.5	36.0	10.1	18.3	40.3	59.7	25.5

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality Population	Etobicoke Twp.	Exeter 1,622	Fergus 2,559	Fonthill 862	Forest 1,465
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	26,109.75	3,281.59	....	....	6,447.40
Substation equipment	....	....	....	....	....
Distribution system—overhead	264,591.04	26,558.89	33,257.25	11,172.41	19,850.09
Distribution system—underground	....	....	....	....	....
Line transformers	65,033.98	10,205.65	15,885.95	4,877.07	9,608.76
Meters	51,454.97	8,081.77	11,763.08	4,331.41	9,289.58
Street light equipment, regular	11,937.62	953.11	2,163.24	1,031.00	2,369.94
Street light equipment, ornamental	2,689.44	....	....	....	....
Miscellaneous construction expense	5,055.18	2,219.08	1,145.49	3,872.65	868.54
Steam or hydraulic plant	....	....	....	....	....
Old plant	....	....	2,546.59	....	11,042.87
Other plants not distributed	....	....	....	....	....
Total plant	426,871.98	51,300.09	66,761.60	25,284.54	59,477.18
Bank and cash balance	....	6,274.48	1,032.62	....	4,166.54
Securities and investments	....	3,000.00	....	....	7,500.00
Accounts receivable	21,905.49	2,525.10	1,149.81	605.01	3,161.98
Inventories	5,431.65	2,034.19	108.80	....	1,714.49
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	92,232.23	23,307.91	28,771.67	2,800.14	16,729.43
Other assets	4,782.46	....	....	219.24	....
Total assets	551,223.81	88,441.77	97,824.50	28,908.93	92,749.62
Deficit	....	....	....	....	....
Total	551,223.81	88,441.77	97,824.50	28,908.93	92,749.62
LIABILITIES					
Debenture balance	185,435.62	8,211.16	18,458.35	16,901.54	10,654.92
Accounts payable	28,000.00	191.98	1,893.70	....	....
Bank overdraft	9,674.35	....	....	1,049.04	....
Other liabilities	7,471.90	104.25	10.00	210.62	26.06
Total liabilities	230,581.87	8,507.39	20,362.05	18,161.20	10,680.98
RESERVES					
For equity in H-E.P.C. systems	92,232.23	23,307.91	28,771.67	2,800.14	16,729.43
For depreciation	61,087.59	9,738.21	7,874.37	1,677.44	11,921.44
Other reserves	760.79	85.90	....	....	50.00
Total reserves	154,080.61	33,132.02	36,646.04	4,477.58	28,700.87
SURPLUS					
Debentures paid	80,259.78	11,788.89	23,541.65	5,598.46	23,745.08
Local sinking fund	....	....	....	....	....
Operating surplus	86,301.55	35,013.47	17,274.76	671.69	29,622.69
Total surplus	166,561.33	46,802.36	40,816.41	6,270.15	53,367.77
Total liabilities, reserves and surplus	551,223.81	88,441.77	97,824.50	28,908.93	92,749.62
Percentage of net debt to total assets	48.9	13.1	29.5	69.5	14.1

"A"—Continued

Hydro Municipalities as at December 31, 1933

Galt 14,036	Georgetown 2,187	Glencoe 800	Goderich 4,366	Granton P.V.	Guelph 20,754	Hagersville 1,370	Hamilton 154,701
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
200,400.85	....	....	12,957.48	....	13,380.18	864.37	929,378.58
113,678.71	....	....	34,402.48	....	154,033.43	....	1,752,301.59
230,512.67	31,167.43	20,906.98	66,031.41	4,320.71	173,856.72	20,216.91	1,207,106.47
....	....	....	....	....	....	....	854,684.64
117,283.95	18,111.46	6,311.20	20,309.85	1,533.55	85,064.07	9,850.72	902,219.08
70,247.62	13,451.90	4,202.13	17,907.69	1,486.86	90,097.57	8,533.70	625,551.46
72,290.44	1,364.67	1,714.63	4,825.17	163.37	42,207.45	1,040.67	277,329.74
....	....	....	....	....	....	....	....
25,070.72	2,411.30	3,383.07	5,883.56	113.08	14,210.70	1,040.63	201,750.22
....	....	....	....	....	....	....	....
....	2,209.80	....	14,622.15	....	....	....	104,252.86
....	....	....	....	....	....	....	....
829,484.96	68,716.56	36,518.01	176,939.79	7,617.57	572,850.12	41,547.00	6,854,574.64
....	1,183.55	2,550.56	2,922.44	2,260.04	7,771.94	9,321.97	118,868.31
....	7,986.67	....	....	2,000.00	....	12,000.00	....
54,185.97	1,691.33	1,351.21	4,021.17	352.86	15,979.43	128.48	421,735.60
12,370.61	127.49	....	1,196.78	....	23,315.15	33.00	158,083.35
109,461.97	....	....	....	....	44,819.73	....	648,954.49
313,276.52	55,732.50	10,750.22	70,410.65	4,760.53	368,952.35	47,251.46	2,173,195.35
1,995.45	1,500.18	....	1,802.96	....	....	....	341.92
1,320,775.48	136,938.28	51,170.00	257,293.79	16,991.00	1,033,688.72	110,281.91	10,375,753.66
....	....	....	....	....	....	....	....
1,320,775.48	136,938.28	51,170.00	257,293.79	16,991.00	1,033,688.72	110,281.91	10,375,753.66
308,324.47	10,694.02	8,559.83	50,093.14	2,131.93	52,500.00	3,166.70	3,271,123.10
13,256.91	811.96	....	1,434.08	238.11	22,450.71	1,960.06	296,978.57
2,031.73	....	....	....	....	....	....	....
5,473.56	498.48	20.00	1,735.79	....	2,374.39	....	1,874,770.30
329,086.67	12,004.46	8,579.83	53,263.01	2,370.04	77,325.10	5,126.76	5,442,871.97
313,276.52	55,732.50	10,750.22	70,410.65	4,760.53	368,952.35	47,251.46	2,173,195.35
231,619.45	19,269.84	6,727.56	57,114.55	2,101.61	36,874.74	7,639.27	883,459.87
34,953.02	....	....	1,055.77	....	837.88	....	171,744.85
579,848.99	75,002.34	17,477.78	128,580.97	6,862.14	406,664.97	54,890.73	3,228,400.07
209,677.48	9,305.98	11,553.05	45,994.91	1,368.07	92,499.99	4,833.30	947,902.02
109,461.97	....	....	....	....	44,819.73	....	648,954.49
92,700.37	40,625.50	13,559.34	29,454.90	6,390.75	412,378.93	45,431.12	107,625.11
411,839.82	49,931.48	25,112.39	75,449.81	7,758.82	549,698.65	50,264.42	1,704,481.66
1,320,775.48	136,938.28	51,170.00	257,293.79	16,991.00	1,033,688.72	110,281.91	10,375,753.66
24.5	14.8	21.2	28.5	19.4	11.6	8.1	66.3

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Harriston	Harrow	Hensall	Hespeler	Highgate
Population	1,293	926	719	2,784	338
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings				4,474.73	
Substation equipment	600.00			29,732.13	
Distribution system—overhead	21,945.86	16,655.54	12,370.10	30,580.07	6,383.76
Distribution system—underground					
Line transformers	7,416.42	9,910.52	4,428.42	20,634.74	2,109.25
Meters	7,087.97	5,831.12	3,427.82	12,264.99	1,697.12
Street light equipment, regular	1,192.80	741.63	612.83	7,147.63	453.91
Street light equipment, ornamental					
Miscellaneous construction expense	892.07	303.39	549.80	603.89	513.64
Steam or hydraulic plant					
Old plant	1,001.43		400.00		
Other plants not distributed					
Total plant	40,136.55	33,442.20	21,788.97	105,438.18	11,157.68
Bank and cash balance	431.61	6,274.16	3,475.78	2,570.18	2,263.07
Securities and investments			4,000.00		2,305.54
Accounts receivable	338.14	297.16	47.20	4,734.05	238.14
Inventories	58.48			435.36	
Sinking fund on local debentures					
Equity in H-E.P.C. systems	19,021.07	11,158.25	8,596.60	56,882.64	5,893.16
Other assets					
Total assets	59,985.85	51,171.77	37,908.55	170,060.41	21,857.59
Deficit					
Total	59,985.85	51,171.77	37,908.55	170,060.41	21,857.59
LIABILITIES					
Debenture balance	10,235.76	8,251.50	7,130.11	34,897.47	3,050.55
Accounts payable	3,471.46	2,816.72	849.78	184.74	
Bank overdraft					
Other liabilities		406.24	55.50	5.00	
Total liabilities	13,707.22	11,474.46	8,035.39	35,087.21	3,050.55
RESERVES					
For equity in H-E.P.C. systems	19,021.07	11,158.25	8,596.60	56,882.64	5,893.16
For depreciation	5,676.17	1,471.04	5,832.73	12,465.85	3,333.64
Other reserves				500.00	
Total reserves	24,697.24	12,629.29	14,429.33	69,848.49	9,226.80
SURPLUS					
Debentures paid	15,582.27	3,748.50	4,869.89	42,673.04	1,949.45
Local sinking fund					
Operating surplus	5,999.12	23,319.52	10,573.94	22,451.67	7,630.79
Total surplus	21,581.39	27,068.02	15,443.83	65,124.71	9,580.24
Total liabilities, reserves and surplus	59,985.85	51,171.77	37,908.55	170,060.41	21,857.59
Percentage of net debt to total assets	33.5	28.6	27.4	31.0	19.1

"A"—Continued

Hydro Municipalities as at December 31, 1933

Humberstone 2,265	Ingersoll 5,296	Jarvis 504	Kingsville 2,286	Kitchener 31,443	Lambeth P.V.	La Salle 600	Leamington 5,025
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	15,064.45	....	7,774.09	179,685.67	....	....	16,387.58
....	33,210.77	....	....	218,733.96	....	....	7,085.62
26,146.68	55,296.05	9,408.06	31,259.00	313,555.64	6,931.29	18,971.34	49,897.49
....	....	....	....	38,019.52	....	....	11,971.67
9,181.25	27,142.19	3,080.21	13,218.19	172,698.35	1,883.12	6,716.60	22,592.47
7,621.55	24,764.88	2,358.05	13,260.75	180,742.56	2,184.61	4,174.22	22,504.36
884.80	3,980.93	846.99	1,439.82	64,926.44	269.16	946.49	1,380.13
....	4,597.59	....	19,200.00	86,939.84	....	....	15,178.49
3,167.04	11,236.70	707.52	52.50	20,676.96	300.71	1,660.69	1,838.17
....	....	....	....	....	....	....	....
....	19,098.54	....	....	52,363.91	....	....	....
....	....	....	....	....	....	....	....
47,001.32	194,392.10	16,400.83	86,204.35	1,328,342.85	11,568.89	32,469.34	148,835.98
3,986.70	....	3,951.34	8,568.14	....	1,530.06	7,165.32	7,060.52
....	11,716.57	....	8,000.00	15,000.00	3,000.00	....	11,000.00
452.04	1,620.07	203.05	544.48	50,628.45	231.98	1,144.49	785.96
....	1,474.48	....	....	10,763.23	....	....	....
....	68,029.84	....	....	....	....	....	....
9,735.62	105,017.04	7,844.51	21,171.01	704,233.55	5,287.52	6,920.00	38,294.17
1,138.44	761.03	....	....	....	....	1,361.14	....
62,314.12	383,011.13	28,399.73	124,487.98	2,108,968.08	21,618.45	49,060.29	205,976.63
....	....	....	....	....	....	....	....
62,314.12	383,011.13	28,399.73	124,487.98	2,108,968.08	21,618.45	49,060.29	205,976.63
19,200.00	79,800.00	6,622.83	28,630.70	190,441.49	2,436.29	11,329.59	33,005.45
169.07	10,172.70	1,510.97	3,155.02	48,568.96	648.04	14.00	331.10
....	5,330.73	....	....	42,547.99	....	....	....
917.09	5,358.62	....	20,882.22	88,094.26	30.00	381.03	17,416.05
20,286.16	100,662.05	8,133.80	52,667.94	369,652.70	3,114.33	11,724.62	50,752.60
9,735.62	105,017.04	7,844.51	21,171.01	704,233.55	5,287.52	6,920.00	38,294.17
1,332.06	12,343.29	2,211.32	14,531.37	247,520.58	2,854.95	5,247.44	19,175.90
....	857.40	....	....	26,164.18	....	980.11	....
11,067.68	118,217.73	10,055.83	35,702.38	977,918.31	8,142.47	13,147.55	57,470.07
12,800.00	....	3,877.17	4,869.30	321,708.51	1,563.71	4,170.41	14,994.55
....	68,029.84	....	....	....	....	....	....
18,160.28	96,101.51	6,332.93	31,248.36	439,688.56	8,797.94	20,017.71	82,759.41
30,960.28	164,131.35	10,210.10	36,117.66	761,397.07	10,361.65	24,188.12	97,753.96
62,314.12	383,011.13	28,399.73	124,487.98	2,108,968.08	21,618.45	49,060.29	205,976.63
38.6	13.0	39.6	39.7	21.4	19.0	27.8	23.3

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Listowel	London	London Twp.	Long Branch	Lucan
Population	2,665	73,173		3,541	590
Assets	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	1,457.39	446,297.17	....	....	....
Substation equipment	....	937,035.75	....	....	....
Distribution system—overhead	38,677.84	775,097.74	17,172.37	51,871.03	10,528.36
Distribution system—underground	2,897.25	281,865.17	....	....	....
Line transformers	17,556.07	288,604.36	5,605.28	11,667.28	4,131.49
Meters	15,946.16	322,834.22	3,782.72	16,685.36	3,123.36
Street light equipment, regular	1,853.82	66,972.71	861.36	4,212.21	430.15
Street light equipment, ornamental	1,348.66	84,746.73	....	....	....
Miscellaneous construction expense	2,482.88	87,103.97	518.96	1,220.51	455.52
Steam or hydraulic plant	....	....	....	....	....
Old plant	4,745.30	....	1,733.80	....	2,860.45
Other plants not distributed	....	....	....	....	....
Total plant	86,965.37	3,290,557.82	29,674.49	85,656.39	21,529.33
Bank and cash balance	13,684.45	82,325.47	5,179.48	....	3,654.23
Securities and investments	....	....	....	....	5,000.00
Accounts receivable	398.63	199,081.27	1,606.66	1,031.58	5.30
Inventories	....	81,210.59	....	....	....
Sinking fund on local debentures	....	323,711.25	....	....	....
Equity in H-E.P.C. systems	40,935.07	1,276,199.72	7,958.96	6,340.04	11,298.71
Other assets	....	430.86	112.32	2,362.03	....
Total assets	141,983.52	5,253,516.98	44,531.91	95,390.04	41,487.57
Deficit	....	....	....	....	....
Total	141,983.52	5,253,516.98	44,531.91	95,390.04	41,487.57
Liabilities					
Debenture balance	7,689.73	917,970.20	11,006.23	25,368.14	4,324.21
Accounts payable	3,219.79	123,527.12	6.69	12,506.99	171.52
Bank overdraft	....	....	....	....	....
Other liabilities	1,545.04	85,177.59	112.32	2,362.03	147.22
Total liabilities	12,454.56	1,126,674.91	11,125.24	40,237.16	4,642.95
Reserves					
For equity in H-E.P.C. systems	40,935.07	1,276,199.72	7,958.96	6,340.04	11,298.71
For depreciation	27,324.72	815,940.62	4,290.81	13,202.97	7,141.45
Other reserves	....	79,389.72	....	359.98	....
Total reserves	68,259.79	2,171,530.06	12,249.77	19,902.99	18,440.16
Surplus					
Debentures paid	35,500.16	663,929.80	7,993.77	14,936.46	6,889.41
Local sinking fund	....	323,711.25	....	....	....
Operating surplus	25,769.01	967,670.96	13,163.13	20,313.43	11,515.05
Total surplus	61,269.17	1,955,312.01	21,156.90	35,249.89	18,404.46
Total liabilities, reserves and surplus	141,983.52	5,253,516.98	44,531.91	95,390.04	41,487.57
Percentage of net debt to total assets	11.1	20.2	30.2	43.6	15.4

"A"—Continued

Hydro Municipalities as at December 31, 1933

Lynden	Markham	Merlin	Merritton	Milton	Milverton	Mimico	Mitchell
P.V.	1,073	P.V.	2,544	1,828	1,004	6,454	1,571
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
241.18	....	....	2,951.67	....	237.20	17,071.16	19,388.71
....	....	....	32,689.04	11,868.94	....	38,461.02	21,287.83
4,774.11	15,421.16	8,042.18	34,597.79	20,602.04	11,341.16	74,219.93	28,998.95
....							
2,134.21	7,872.35	3,399.23	7,320.28	13,944.73	7,565.80	29,920.12	8,807.77
1,595.60	5,681.24	2,057.70	9,664.77	13,091.00	5,047.01	28,091.34	11,902.61
340.66	750.76	555.64	4,676.11	1,282.36	737.16	7,747.29	3,698.59
....	....	....	....	....	....	....	....
193.57	1,560.51	455.36	3,210.44	4,282.62	773.05	5,008.13	931.79
....	....	....	....	....	....	....	....
....	....	241.85	....	3,092.54	....	....	1,500.00
....	....	....	....	....	....	....	....
9,279.33	31,286.02	14,751.96	95,110.10	68,164.23	25,701.38	200.518.99	96,516.25
866.20	1,963.31	3,007.41	6,854.90	5,363.01	1,036.76	100.00	2,903.68
....	2,153.58	6,000.00	....	12,000.00	2,000.00	....	1,000.00
394.72	696.00	712.68	3,538.18	5,708.73	1,689.76	10,610.69	5,769.11
....	....	....	....	4,145.51	....	....	2,544.29
....	....	....	....	....	....	....	....
8,470.87	9,223.04	7,210.65	51,801.81	62,216.95	27,538.79	74,423.84	25,154.35
....	....	....	....	139.85	....	2,012.47	....
19,011.12	45,321.95	31,682.70	157,304.99	157,738.28	57,966.69	287,665.99	133,887.68
....	....	....	....	....	....	....	....
19,011.12	45,321.95	31,682.70	157,304.99	157,738.28	57,966.69	287,665.99	133,887.68
2,665.87	1,241.70	7,748.06	20,063.94	8,311.39	1,466.31	83,254.65	....
280.76	30	1,327.05	728.19	1,109.85	2,675.00	229.03	368.49
....	....	....	....	....	....	1,010.65	....
....	65.00	....	....	139.85	....	4,645.00	106.00
2,946.63	1,307.00	9,075.11	20,792.13	9,561.09	4,141.31	89,139.33	474.49
8,470.87	9,223.04	7,210.65	51,801.81	62,216.95	27,538.79	74,423.84	25,154.35
2,447.13	5,420.72	2,150.45	5,720.91	14,462.53	5,125.26	41,430.43	33,537.39
....	....	....	....	1,492.45	675.00	2,749.18	....
10,918.00	14,643.76	9,361.10	57,522.72	78,171.93	33,339.05	118,603.45	58,691.74
1,829.13	10,131.93	5,616.15	12,122.27	24,735.02	8,033.69	43,745.35	22,295.22
....	....	....	....	....	....	....	....
3,317.36	19,239.26	7,630.34	66,867.87	45,270.24	12,452.64	36,177.86	52,426.23
5,146.49	29,371.19	13,246.49	78,990.14	70,005.26	20,486.33	79,923.21	74,721.45
19,011.12	45,321.95	31,682.70	157,304.99	157,738.28	57,966.69	287,665.99	133,887.68
27.9	3 6	37.0	19.7	9.8	13.6	41.8	0.4

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality Population	Moorefield P.V.	Mount Brydges P.V.	Newbury 267	New Hamburg 1,426	New Toronto 7,280
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	....	....	....	2,513.19	43,745.98
Substation equipment	....	....	....	1,167.55	....
Distribution system—overhead	2,980.96	6,393.68	6,422.17	23,632.05	77,754.15
Distribution system—underground	....	....	....	....	8,605.69
Line transformers	990.72	1,709.69	1,797.86	6,512.94	29,638.15
Meters	1,202.26	2,240.12	1,187.32	8,982.53	28,094.55
Street light equipment, regular	295.88	689.49	817.42	2,065.70	10,090.44
Street light equipment, ornamental	....	....	....	....	....
Miscellaneous construction expense	348.35	220.32	486.13	1,083.83	7,428.83
Steam or hydraulic plant	....	....	....	....	....
Old plant	....	....	348.22	5,242.56	....
Other plants not distributed	....	....	....	....	....
Total plant	5,818.17	11,253.30	11,059.12	51,200.35	205,357.79
Bank and cash balance	2,099.55	2,774.13	773.06	25.00	50.00
Securities and investments	....	3,000.00	....	....	....
Accounts receivable	8.64	719.98	867.12	1,045.55	22,695.89
Inventories	....	....	....	1,044.07	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	3,564.98	3,954.00	2,459.74	28,962.42	233,643.69
Other assets	....	....	....	....	1,089.07
Total assets	11,491.34	21,701.41	15,159.04	82,277.39	462,836.44
Deficit	....	....	....	....	....
Total	11,491.34	21,701.41	15,159.04	82,277.39	462,836.44
LIABILITIES					
Debenture balance	1,339.73	2,349.77	4,400.00	6,775.48	4,018.49
Accounts payable	171.93	31.45	....	....	412.37
Bank overdraft	....	....	....	349.48	13,987.00
Other liabilities	....	70.00	5.00	119.50	5,089.07
Total liabilities	1,511.66	2,451.22	4,405.00	7,244.46	23,506.93
RESERVES					
For equity in H-E.P.C. systems	3,564.98	3,954.00	2,459.74	28,962.42	233,643.69
For depreciation	2,044.16	2,115.30	2,343.93	10,464.13	40,978.95
Other reserves	....	....	....	192.10	3,094.82
Total reserves	5,609.14	6,069.30	4,803.67	39,618.65	277,717.46
SURPLUS					
Debentures paid	3,160.27	1,870.23	5,354.39	10,953.60	3,981.51
Local sinking fund	....	....	....	....	....
Operating surplus	1,210.27	11,310.66	595.98	24,460.68	157,630.54
Total surplus	4,370.54	13,180.89	5,950.37	35,414.28	161,612.05
Total liabilities, reserves and surplus	11,491.34	21,701.41	15,159.04	82,277.39	462,836.44
Percentage of net debt to total assets	19.1	13.8	34.7	13.6	10.2

"A"—Continued

Hydro Municipalities as at December 31, 1933

Niagara Falls 18,507	Niagara-on-the-Lake 1,672	North York Twp.	Norwich 1,126	Oil Springs 433	Otterville P.V.	Palmerston 1,617	Paris 4,330
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
132,198.34	2,307.35	28,248.83	4,157.99	1,296.76	....	....	8,426.83
229,660.23	16,048.36	....	....	....	....	691.88	27,948.18
190,325.96	27,556.88	328,051.79	11,050.93	12,840.49	7,068.45	26,298.27	51,352.12
....	....	....	....	....	....	....	....
157,091.98	6,852.78	79,115.36	6,180.85	5,670.91	3,587.82	9,844.50	19,712.59
106,984.98	7,707.66	41,099.94	6,818.57	3,321.76	2,227.30	7,414.82	19,291.30
117,345.32	1,230.44	156.00	4,685.64	308.24	1,408.96	2,179.10	13,986.43
....	....	13,491.21	....	....	....	....	....
14,475.01	1,716.72	20,507.44	1,585.11	2,568.33	142.00	781.39	731.08
....	....	....	....	....	....	....	....
21,604.27	....	....	3,509.82	....	....	4,018.71	....
....	....	....	....	....	....	....	....
969,686.09	63,420.19	510,670.57	37,988.91	26,006.49	14,434.53	51,228.67	141,448.53
27,754.32	744.73	....	2,185.73	3,055.32	3,548.17	315.28	5,489.68
....	....	4,304.59	3,000.00	2,483.98	....	....	18,500.00
21,267.90	2,412.18	6,321.28	1,846.81	753.59	884.28	341.95	838.78
16,116.47	1,448.52	82.97	1,285.36	74.77	....	121.30	....
....	....	....	....	....	....	....	....
322,289.01	16,284.04	49,580 68	21,467.24	14,703.00	4,586.52	24,034.50	65,116.46
25,951.10	52.05	....	....	....	....	....	....
1,383,064.89	84,361.71	570,960.09	67,774.05	47,077.15	23,453.50	76,041.70	231,393.45
....	....	....	....	....	....	....	....
1,383,064.89	84,361.71	570,960.09	67,774.05	47,077.15	23,453.50	76,041.70	231,393.45
351,446.59	21,359.37	371,831.09	6,024.98	4,945.29	719.34	4,157.76	9,461.15
50,114.43	565.87	223.18	223.63	1,507.58	256.93	724.44	548.79
....	....	....	....	....	....	....	....
14,997.41	50.00	18,633.22	107.50	....	10.00	237.50	....
416,558.43	21,975.24	390,687.49	6,356.11	6,452.87	986.27	5,119.70	10,009.94
322,289.01	16,284.04	49,580.68	21,467.24	14,703.00	4,586.52	24,034.50	65,116.46
135,074.09	8,728.32	56,045.34	4,828.54	6,123.17	3,953.07	6,287.98	58,963.83
11,097.41	....	....	1,000.00	....	....	491.67	175.00
468,460.51	25,012.36	105,626.02	27,295.78	20,826.17	8,539.59	30,814.15	124,255.29
338,796.41	15,142.05	71,190.78	7,731.02	11,776.02	3,780.66	22,842.24	82,538.85
....	....	....	....	....	....	....	....
159,249.54	22,232.06	3,455.80	26,391.14	8,022.09	10,146.98	17,265.61	14,589.37
498,045.95	37,374.11	74,646.58	34,122.16	19,798.11	13,927.64	40,107.85	97,128.22
1,383,064.89	84,361.71	570,960.09	67,774.05	47,077.15	23,453.50	76,041.70	231,393.45
39.2	32.3	73.0	13.7	19.9	5.2	9.8	6.0

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality Population	Parkhill 998	Petrolia 2,569	Plattsville P.V.	Point Edward 1,211	Port Colborne 6,006
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings		900.00			22,561.01
Substation equipment		2,403.55			
Distribution system—overhead	15,970.73	43,154.86	4,116.10	21,201.15	88,265.47
Distribution system—underground					
Line transformers	4,239.63	26,133.29	1,890.66	6,752.07	24,486.11
Meters	4,284.93	14,951.86	1,921.31	4,938 70	21,939.13
Street light equipment, regular	898.23	4,849.35	147.15	3,060.75	4,544.86
Street light equipment, ornamental					16,611.59
Miscellaneous construction expense	1,364.13	5,567.23	535.92	503.14	7,355.75
Steam or hydraulic plant					
Old plant		3,389.94			9,929.60
Other plants not distributed					
Total plant	26,757.65	101,350.08	8,611.14	36,455.81	195,693.52
Bank and cash balance	1,324.87	5,040.77	598.90	339.69	2,030.85
Securities and investments		8,400.00		13,000.00	1,500.00
Accounts receivable	211.30	4,845.31	290.63	3,731.10	10,700.96
Inventories		1,113.27			3,562.98
Sinking fund on local debentures					
Equity in H-E.P.C. systems	10,093.35	58,101.13	5,100.27	25,866.17	49,150.47
Other assets		607.00			
Total assets	38,387.17	179,457.56	14,600.94	79,392.77	262,638.78
Deficit					
Total	38,387.17	179,457.56	14,600.94	79,392.77	262.638.78
LIABILITIES					
Debenture balance	6,053.94	24,250.57	2,829.93	7,995.22	93,441.20
Accounts payable		2,655.90		1,973.33	7,259.53
Bank overdraft					
Other liabilities	75.00	607.00			20,244.27
Total liabilities	6,128.94	27,513.47	2,829.93	9,968.55	120,945.00
RESERVES					
For equity in H-E.P.C. systems	10,093.35	58,101.13	5,100.27	25,866.17	49,150.47
For depreciation	5,061.97	26,730.46	2,805.33	8,646.12	30,837.14
Other reserves		462.12		300.00	1,424.82
Total reserves	15,155.32	85,293.71	7,905.60	34,812.29	81,412.43
SURPLUS					
Debentures paid	8,576.08	25,749.43	2,407.07	9,004.78	52,558.80
Local sinking fund					
Operating surplus	8,526.83	40,900.95	1,458.34	25,607.15	7,722.55
Total surplus	17,102.91	66,650.38	3,865.41	34,611.93	60,281.35
Total liabilities, reserves and surplus	38,387.17	179,457.56	14,600.94	79,392.77	262,638.78
Percentage of net debt to total assets	21.7	22.3	29.8	18.6	52.9

"A"—Continued

Hydro Municipalities as at December 31, 1933

Port Credit 1,650	Port Dalhousie 1,331	Port Dover 1,680	Port Rowan 674	Port Stanley 723	Preston 6,138	Princeton P.V.	Queenston P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
675.00	....	248.75	....	1,570.80	....	....	....
....	....	....	....	....	50,602.15	....	....
24,693.75	18,560.05	29,878.70	9,650.37	20,483.81	90,548.28	4,228.15	7,594.07
....	....	....	....	....	....	....	....
9,881.98	9,272.89	10,285.81	1,676.62	11,456.32	47,835.53	2,473.48	1,911.85
9,266.13	9,380.26	6,959.06	1,815.68	9,348.18	38,805.22	1,223.65	1,536.99
4,922.71	1,041.19	2,621.53	888.04	1,619.18	5,418.03	185.35	422.43
....	....	....	....	....	....	....	....
880.99	2,304.88	2,418.27	701.53	5,795.39	6,948.89	64.35	2,081.11
....	....	....	....	....	....	....	....
....	6,018.38	....	....	577.51	32,126.75	....	....
....	....	....	....	....	....	....	....
50,320.56	46,577.65	52,412.12	14,732.24	50,851.19	272,284.85	8,174.98	13,546.45
3,030.30	1,564.01	4,526.71	86.36	3,532.64	16,822.25	2,211.42	132.20
....	3,000.00	....	....	3,000.00	6,000.00	....	....
1,806.68	2,472.02	3,167.51	256.29	1,359.00	15,974.69	1,030.52	269.27
....	....	....	....	....	225.63	....	....
....	2,763.77	....	....	....	....	....	....
19,681.98	16,815.86	12,733.61	3,408.20	22,072.23	155,142.27	4,534.68	3,708.42
402.42	....	....	....	....	....	....	....
75,241.94	73,193.31	72,839.95	18,483.09	80,815.06	466,449.69	15,951.60	17,656.34
....	....	....	6,119.26	....	....	....	....
75,241.94	73,193.31	72,839.95	24,602.35	80,815.06	466,449.69	15,951.60	17,656.34
8,150.07	9,830.08	10,502.73	8,914.18	7,406.13	51,651.54	1,918.27	5,635.49
2,886.10	187.03	3,517.26	8,410.10	655.00	6,720.30	110.75	38.97
....	....	....	....	....	....	....	....
370.00	....	642.50	....	30.01	1,317.94	....	....
11,406.17	10,017.11	14,662.49	17,324.28	8,091.14	59,689.78	2,029.02	5,674.46
19,681.98	16,815.86	12,733.61	3,408.20	22,072.23	155,142.27	4,534.68	3,708.42
13,033.01	4,352.20	7,809.93	1,784.05	9,232.04	93,620.87	2,287.98	2,540.45
198.71	800.00	....	....	....	103.59	....	....
32,913.70	21,968.06	20,543.54	5,192.25	31,304.27	248,866.73	6,822.66	6,248.87
6,349.93	12,669.92	18,497.27	2,085.82	11,543.87	101,148.46	1,631.73	3,864.51
....	2,763.77	....	....	....	....	....	....
24,572.14	25,774.45	19,136.65	....	29,875.78	56,744.72	5,468.19	1,868.50
30,922.07	41,208.14	37,633.92	2,085.82	41,419.65	157,893.18	7,099.92	5,733.01
75,241.94	73,193.31	72,839.95	24,602.35	80,815.06	466,449.69	15,951.60	17,656.34
20.5	13.5	24.4	114.9	13.8	19.2	17.8	40.7

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Richmond Hil	Ridgetown	Riverside	Rockwood	Rodney
Population	1,270	1,942	5,125	P.V.	757
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings			2,379.31	79.00	
Substation equipment	600.00	1,024.24			
Distribution system—overhead	10,471.67	21,427.18	90,947.15	7,565.39	11,203.12
Distribution system—underground					
Line transformers	7,803.75	9,768.42	31,354.96	2,481.27	2,971.48
Meters	4,754.84	9,403.96	22,650.71	2,802.39	3,527.15
Street light equipment, regular	1,334.77	3,533.41		561.22	622.69
Street light equipment, ornamental		1,431.73	17,030.71		
Miscellaneous construction expense	35.23	2,379.28	4,571.45	455.65	771.10
Steam or hydraulic plant					
Old plant		5,088.46			700.00
Other plants not distributed					
Total plant	25,000.26	54,056.68	168,934.29	13,944.92	19,795.54
Bank and cash balance	4,388.52	50.00			1,774.92
Securities and investments		13,000.00			3,000.00
Accounts receivable	2,574.51	574.08	9,101.58	140.79	421.61
Inventories	149.92	870.21		114.98	
Sinking fund on local debentures					
Equity in H-E.P.C. systems	8,304.53	23,153.15	43,095.44	6,373.61	6,962.59
Other assets				43.15	
Total assets	40,417.74	91,704.12	221,131.31	20,617.45	31,954.66
Deficit					
Total	40,417.74	91,704.12	221,131.31	20,617.45	31,954.66
LIABILITIES					
Debenture balance	4,153.98	6,395.74	53,888.22	2,345.00	5,332.25
Accounts payable	234.61	1,491.11	3,945.89		394.84
Bank overdraft		2,378.61	1,550.98	17.62	
Other liabilities	127.22	335.00	17,030.71	41.00	140.00
Total liabilities	4,515.81	10,600.46	76,415.80	2,403.62	5,867.09
RESERVES					
For equity in H-E.P.C. systems	8,304.53	23,153.15	43,095.44	6,373.61	6,962.59
For depreciation	1,319.76	10,897.16	25,990.34	4,144.31	1,682.26
Other reserves			299.70		
Total reserves	9,624.29	34,050.31	69,385.48	10,517.92	8,644.85
SURPLUS					
Debentures paid	8,046.02	13,060.25	28,611.78	2,155.00	3,167.75
Local sinking fund					
Operating surplus	18,231.62	33,993.10	46,718.25	5,540.91	14,274.97
Total surplus	26,277.64	47,053.35	75,330.03	7,695.91	17,442.72
Total liabilities, reserves and surplus	40,417.74	91,704.12	221,131.31	20,617.45	31,954.66
Percentage of net debt to total assets	14.1	13.6	36.8	16.9	23.5

"A"—Continued

Hydro Municipalities as at December 31, 1933

St. Catharines 26,192	St. Clair Beach	St. George P.V.	St. Jacobs P.V.	St. Marys 4,016	St. Thomas 16,275	Sandwich 11,017
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
47,378.92	....	....	....	3,000.00	73,253.59	541.70
115,063.83	....	....	....	26,975.49	110,241.39	4,097.56
207,545.05	7,918.75	5,935.34	6,461.28	56,424.90	111,816.38	107,887.10
....	....	....	....	....	36,690.67	....
141,812.77	2,726.36	2,729.42	2,539.38	18,843.29	53,685.43	47,269.29
88,567.66	1,443.71	2,890.56	2,662.28	22,018.71	68,100.59	50,421.88
18,485.98	....	286.41	390.26	5,074.74	21,259.32	11,665.76
29,486.71	....	....	....	....	3,693.04	51,239.13
38,196.14	149.27	374.18	460.55	3,790.51	9,527.13	7,938.60
....	....	....	....	....	....	....
7,792.05	....	....	....	20,696.85	....	4,148.96
....	....	....	....	....	....	....
694.329.11	12,238.09	12,215.91	12,513.75	156,824.49	488,267.54	285,209.98
2,678.62	....	73.10	21.37	25.00	18,521.87	2,295.07
....	....	....	3,000.00	....	47,758.42	21,659.37
34,500.84	1,174.22	289.61	59.96	3,103.68	16,627.27	18,487.21
474.38	....	24.48	....	3,087.90	8,962.59	393.72
68,010.06	....	....	....	1,375.88	....	....
290,602.66	3,600.11	7,663.23	7,966.38	76,957.11	264,228.94	125,752.20
....	....	....	....	....	....	20,693.14
1,090,595.67	17,012.42	20,266.33	23,561.46	241,374.06	844,366.63	474,490.69
....	....	....	....	215.82	....	....
1,090,595.67	17,012.42	20,266.33	23,561.46	241,589.88	844,366.63	474,490.69
209,961.24	3,663.73	3,344.03	1,759.45	40,839.90	27,957.27	97,856.41
24,896.78	237.29	....	392.27	2,099.66	4.60	....
14,000.00	345.67	....	....	1,689.09	....	....
29,792.71	....	87.50	....	117.50	12,188.74	82,478.25
278,650.73	4,246.69	3,431.53	2,151.72	44,746.15	40,150.61	180,334.66
290,602.66	3,600.11	7,663.23	7,966.38	76,957.11	264,228.94	125,752.20
133,334.99	2,298.68	1,874.75	2,758.05	44,444.57	97,309.67	37,335.30
7,047.10	12.67	....	....	659.05	487.21	....
430,984..75	5,911.46	9,537.98	10,724.43	122,060.73	362,025.82	163,087.50
92,061.67	2,677.72	2,655.97	4,240.55	73,407.12	110,986.80	47,716.62
68,010.06	....	....	....	1,375.88	....	....
220,888.46	4,176.55	4,640.85	6,444.76	....	331,203.40	83,351.91
380,960.19	6,854.27	7,296.82	10,685.31	74,783.00	442,190.20	131,068.53
1,090,595.67	17,012.42	20,266.33	23,561.46	241,589.88	844,366.63	474,490.69
32.3	31.6	27.2	13.8	26.6	6.3	43.4

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Sarnia	Scarboro' Twp	Seaforth	Simcoe	Spring-field
Population	17,801		1,692	5,397	379
Assets	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	111,796.86	16,585.49	1,290.34	8,442.41	....
Substation equipment	199,300.27	301.95	5,999.16	22,906.67	....
Distribution system—overhead	214,746.25	269,600.83	28,114.36	50,178.74	7,872.62
Distribution system—underground	....	....	....	1,417.87	....
Line transformers	79,089.95	59,762.65	9,670.10	24,481.89	2,374.19
Meters	71,879.72	63,913.90	8,749.87	24,074.70	1,981.74
Street light equipment, regular	25,306.78	19,810.03	1,414.55	5,589.97	546.24
Street light equipment, ornamental	7,482.11	....	....	3,500.00	....
Miscellaneous construction expense	24,057.28	12,685.69	574.76	6,016.27	691.36
Steam or hydraulic plant	....	....	....	....	....
Old plant	55,445.72	....	....	927.92	....
Other plants not distributed	....	....	....	....	....
Total plant	789,104.94	442,660.54	55,813.14	147,536.44	13,466.15
Bank and cash balance	2,683.40	32,297.54	2,455.26	8,571.22	62.84
Securities and investments	....	....	100.00	....	4,500.00
Accounts receivable	41,545.26	13,062.13	5,728.70	2,564.49	851.04
Inventories	19,011.08	....	2,362.54	112.00	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	328,029.30	84,438.89	37,447.48	49,310.53	5,308.21
Other assets	3,520.00	....	....	....	....
Totals assets	1,183,893.98	572,459.10	103,907.12	208,094.68	24,188.24
Deficit	....	....	....	....	....
Total	1,183,893.98	572,459.10	103,901.12	208,094.68	24,188.24
Liabilities					
Debenture balance	129,466.79	219,448.13	....	54,937.81	3,610.93
Accounts payable	22,802.79	26,383.30	316.44	591.45	65.49
Bank overdraft	....	....	....	....	....
Other liabilities	13,391.67	25,952.79	35.00	3,625.00	52.00
Total liabilities	165,661.25	271,784.22	351.44	59,154.26	3,728.42
Reserves					
For equity in H-E.P.C. systems	328,029.30	84,438.89	37,447.48	49,310.53	5,308.21
For depreciation	116,801.40	63,544.07	18,367.28	18,402.37	2,330.06
Other reserves	944.69	4,202.94	1,106.96	....	....
Total reserves	445,775.39	152,185.90	56,921.72	67,712.90	7,638.27
Surplus					
Debentures paid	208,533.21	71,120.15	25,000.00	20,497.09	5,889.07
Local sinking fund	....	....	....	....	....
Operating surplus	363,924.13	77,368.83	21,633.96	60,730.43	6,932.48
Total surplus	572,457.34	148,488.98	46,633.96	81,227.52	12,821.55
Total liabilities, reserves and surplus	1,183,893.98	572,459.10	103,907.12	208,094.68	24,188.24
Percentage of net debt to total assets	18.0	55.7	0.5	35.7	19.7

"A"—Continued

Hydro Municipalities as at December 31, 1933

Stamford Twp.	Stouffville 1,105	Stratford 18,869	Strathroy 2,879	Sutton 809	Tavistock 1,042	Tecumseh 2,546	Thamesford P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
7,196.71	....	135,191.94	8,741.01	....	234.02	....	....
37,384.60	....	136,903.19	22,194.32	....	....	....	....
124,563.22	12,608.07	153,378.90	48,919.46	19,752.18	13,273.34	34,572.41	7,691.45
....	....	....	....	....	....	....	....
43,451.31	3,903.57	93,765.92	19,238.16	6,797.85	6,251.28	10,039.18	2,625.63
30,693.29	4,108.78	85,894.94	14,441.11	5,633.71	4,786.61	10,501.08	2,549.77
9,191.78	1,445.52	21,797.39	5,814.75	1,571.88	931.82	....	290.65
....	....	....	....	....	....	4,760.95	....
10,164.65	497.41	17,534.24	2,293.90	1,593.88	586.46	1,262.48	343.89
....	....	....	....	....	....	....	....
13,743.66	3,866.37	16,150.00	12,343.15	675.00	....	....	....
....	....	....	....	....	....	....	....
276,389.22	26,429.72	660,616.52	133,985.86	36,024.50	26,063.53	61,136.10	13,501.39
4,654.19	4,165.17	30,599.19	8,514.85	2,403.39	854.69	....	626.47
....	5,000.00	21,900.00	....	....	3,596.30	....	7,500.00
14,089.24	439.03	29,556.48	3,546.01	1,385.47	766.81	2,886.87	....
7,185.81	27.20	9,679.56	2,536.70	21.00	....	....	....
....	....	209,445.54	....	....	....	....	....
48,099.73	7,758.09	341,228.19	47,541.31	7,140.47	24,238.67	13,344.22	9,606.22
5,170.62	....	2,283.71	541.59	....	....	....	34.00
355,588.81	43,819.21	1,305,309.19	196,666.32	46,974.83	55,520.00	77,367.19	31,268.08
....	....	....	....	....	....	....	....
355,588.81	43,819.21	1,305,309.19	196,666.32	46,974.83	55,520.00	77,367.19	31,268.08
171,033.87	6,628.45	412,000.00	34,437.54	16,291.56	3,666.42	14,789.20	1,662.13
10,205.15	....	54.64	192.76	2,266.91	105.83	3,250.03	76.48
....	....	....	....	....	....	3,928.24	....
4,073.36	....	2,283.71	541.59	47.30	....	4,760.95	34.00
185,312.38	6,628.45	414,338.35	35,171.89	18,605.77	3,772.25	26,728.42	1,772.61
48,099.73	7,758.09	341,228.19	47,541.31	7,140.47	24,238.67	13,344.22	9,606.22
23,104.62	2,075.19	208,434.19	21,936.81	4,860.12	7,536.71	10,279.95	4,517.18
2,375.00	....	2,024.65	522.15	....	....	214.95	....
73,579.35	9,833.28	551,687.03	70,000.27	12,000.59	31,775.38	23,839.12	14,123.40
69,244.30	11,911.82	43,800.00	31,794.46	9,708.44	2,333.58	11,210.80	3,695.90
....	....	209,445.54	....	....	....	....	....
27,452.78	15,445.66	86,038.27	59,699.70	6,660.03	17,638.79	15,588.85	11,676.17
96,697.08	27,357.48	339,283.81	91,494.16	16,368.47	19,972.37	26,799.65	15,372.07
355,588.81	43,819.21	1,305,309.19	196,666.32	46,974.83	55,520.00	77,367.19	31,268.08
60.2	18.4	27.2	23.3	46.7	12.1	37.0	8.0

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Thamesville	Thedford	Thorndale	Thorold	Tilbury
Population	754	577	P.V.	5,068	1,996
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	681.69	....	....	9,892.59	969.46
Substation equipment	....	....	....	....	....
Distribution system—overhead	11,902.59	9,228.39	3,288.86	31,057.12	16,006.41
Distribution system—underground	....	....	....	....	....
Line transformers	5,160.49	3,303.91	1,559.98	15,052.83	12,699.77
Meters	3,827.61	2,206.01	1,747.46	20,502.73	7,440.92
Street light equipment, regular	1,379.42	885.46	181.19	2,811.59	1,001.16
Street light equipment, ornamental	....	....	....	....	....
Miscellaneous construction expense	895.68	1,612.01	310.45	4,982.45	1,426.82
Steam or hydraulic plant	....	....	....	13,244.74	....
Old plant	4,445.68	433.78	....	....	3,049.47
Other plants not distributed	....	....	....	....	....
Total plant	28,293.16	17,669.56	7,087.94	97,544.05	42,594.01
Bank and cash balance	2,570.77	410.78	438.88	4,720.68	3,460.87
Securities and investments	6,000.00	1,000.00	....	....	10,000.00
Accounts receivable	576.54	580.65	605.86	4,122.89	289.13
Inventories	....	....	....	152.13	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	9,545.28	4,809.74	5,154.87	45,966.73	24,728.27
Other assets	....	....	....	....	150.02
Total assets	46,985.75	24,470.73	13,287.55	152,506.48	81,222.30
Deficit	....	....	....	....	....
Total	46,985.75	24,470.73	13,287.55	152,506.48	81,222.30
LIABILITIES					
Debenture balance	4,169.01	8,933.05	1,433.12	....	6,661.95
Accounts payable	11.97	61.82	....	152.24	325.40
Bank overdraft	....	....	....	....	....
Other liabilities	178.00	10.00	17.50	1,559.50	....
Total liabilities	4,358.98	9,004.87	1,450.62	1,711.74	6,987.35
RESERVES					
For equity in H-E.P.C. systems	9,545.28	4,809.74	5,154.87	45,966.73	24,728.27
For depreciation	6,125.55	2,086.53	2,636.99	23,997.30	10,340.80
Other reserves	....	....	100.00	....	....
Total reserves	15,670.83	6,896.27	7,891.86	69,964.03	35,069.07
SURPLUS					
Debentures paid	7,018.79	7,566.95	1,653.36	5,000.00	7,338.05
Local sinking fund	....	....	....	....	....
Operating surplus	19,937.15	1,002.64	2,291.71	75,830.71	31,827.83
Total surplus	26,955.94	8,569.59	3,945.07	80,830.71	39,165.88
Total liabilities, reserves and surplus	46,985.75	24,470.73	13,287.55	152,506.48	81,222.30
Percentage of net debt to total assets	11.6	45.8	17.8	1.6	12.4

"A"—Continued

Hydro Municipalities as at December 31, 1933

Tillsonburg 3,351	Toronto 626,674	Toronto Twp.	Trafalgar Twp. Area No. 1	Trafalgar Twp. Area No. 2	Walkerville 10,681	Wallaceburg 4,343
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
4,824.27	5,400,813.30	6,366.13	....	....	147,518.53	37,746.29
13,937.52	14,971,090.50	....	....	....	155,069.52	9,651.80
41,024.22	6,227,078.98	175,307.49	20,294.72	10,456.48	153,627.02	55,679.80
....	4,085,067.76	....	....	....	....	....
16,761.20	3,561,045.50	49,332.62	9,595.46	2,071.55	90,713.78	34,773.82
15,824.40	2,974,114.67	31,681.48	4,741.17	1,309.65	69,783.88	19,637.22
11,522.52	480,484.65	3,717.44	....	....	....	10,224.10
....	....	....	....	....	187,172.22	....
4,570.72	2,617,154.43	3,139.02	1,541.60	314.16	38,538.32	4,078.20
....	....	....	....	....	....	....
....	3,585,379.99	619.65	....	....	18,335.05	20,941.07
....	....	....	....	....	....	....
108,464.85	43,902,229.78	270,163.83	36,172.95	14,151.84	860,758.32	192,732.30
540.39	387,096.74	6,335.94	1,299.64	....	50.00	8,947.86
9,000.00	....	10,000.00	4,000.00	2,000.00	31,119.99	....
2,375.17	1,614,289.78	8,641.64	572.86	294.10	107,974.17	3,691.60
1,801.45	526,939.00	....	....	....	25,442.15	5,636.29
....	6,121,128.19	....	....	....	....	....
47,955.04	10,262,345.03	48,982.20	....	....	356,447.26	102,741.31
2,506.02	75,259.49	2,091.46	....	....	841.35	1,750.57
172,642.92	62,889,288.01	346,215.07	42,045.45	16,445.94	1,382,633.24	315,499.93
....	....	....	....	....	....	....
172,642.92	62,889,288.01	346,215.07	42,045.45	16,445.94	1,382,633.24	315,499.93
10,138.34	26,457,233.36	60,920.24	12,614.82	9,461.15	137,772.89	44,546.15
28.51	1,692,448.39	....	....	....	22,305.24	701.54
....	....	....	....	354.61	38,468.33	....
2,506.02	....	2,091.46	....	....	205,072.72	1,750.57
12,672.87	28,149,681.75	63,011.70	12,614.82	9,815.76	403,619.18	46,998.26
47,955.04	10,262,345.03	48,982.20	....	....	356,447.26	102,741.31
29,731.07	7,214,466.03	85,258.17	12,046.67	1,193.00	125,031.63	37,584.12
500.00	968,096.82	862.42	....	....	3,454.62	287.99
78,186.11	18,444,907.88	135,102.79	12,046.67	1,193.00	484,933.51	140,613.42
25,861.66	8,125,766.64	43,079.76	6,811.59	....	161,486.11	26,990.43
....	6,121,128.19	....	....	....	....	....
55,922.28	2,047,803.55	105,020.82	10,572.37	5,437.18	332,594.44	100,897.82
81,783.94	16,294,698.38	148,100.58	17,383.96	5,437.18	494,080.55	127,888.25
172,642.92	62,889,288.01	346,215.07	42,045.45	16,445.94	1,382,633.24	315,499.93
10.2	47.4	20.6	3.0	59.7	25.8	21.4

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Wardsville	Water-down	Waterford	Waterloo	Watford
Population	214	924	1,168	8,563	956
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings		200.00		14,454.37	
Substation equipment				63,543.83	
Distribution system—overhead	5,003.72	16,056.14	15,772.78	90,368.32	16,452.69
Distribution system—underground					
Line transformers	1,665.49	5,391.05	7,201.37	40,376.31	5,411.56
Meters	1,253.12	5,594.64	5,939.66	34,817.28	5,200.57
Street light equipment, regular	519.36	583.81	3,231.62	14,092.07	807.31
Street light equipment, ornamental				3,106.80	
Miscellaneous construction expense	518.73	411.29	447.83	6,484.84	2,022.23
Steam or hydraulic plant					
Old plant	193.94			24,160.67	657.44
Other plants not distributed					
Total plant	9,154.36	28,236.93	32,593.26	291,404.49	30,551.80
Bank and cash balance		2,036.53	349.34	12,322.16	296.16
Securities and investments			5,300.00		5,500.00
Accounts receivable	974.40	1,457.48	536.95	2,170.24	1,097.07
Inventories				375.00	30.87
Sinking fund on local debentures				11,255.78	
Equity in H-E.P.C. systems	1,876.72	13,365.35	17,475.90	142,961.10	11,763.78
Other assets					
Total assets	12,005.48	45,096.29	56,255.45	460,488.77	49,239.68
Deficit					
Total	12,005.48	45,096.29	56,255.45	460,488.77	49,239.68
LIABILITIES					
Debenture balance	3,893.41			52,472.72	1,544.99
Accounts payable	200.00		400.59	14,654.51	
Bank overdraft	95.95				
Other liabilities		70.00		3,106.80	
Total liabilities	4,189.36	70.00	400.59	70,234.03	1,544.99
RESERVES					
For equity in H-E.P.C. systems	1,876.72	13,365.35	17,475.90	142,961.10	11,763.78
For depreciation	1,912.84	6,758.54	8,962.52	93,685.60	5,596.64
Other reserves				328.00	23.00
Total reserves	3,789.56	20,123.89	26,438.42	236,974.70	17,383.42
SURPLUS					
Debentures paid	3,668.99	8,000.00	7,745.53	53,527.28	8,168.22
Local sinking fund				11,255.78	
Operating surplus	357.57	16,902.40	21,670.91	88,496.98	22,143.05
Total surplus	4,026.56	24,902.40	29,416.44	153,280.04	30,311.27
Total liabilities, reserves and surplus	12,005.48	45,096.29	56,255.45	460,488.77	49,239.68
Percentage of net debt to total assets	41.4	0.2	1.0	22.1	4.1

"A"—Continued

Hydro Municipalities as at December 31, 1933

Welland 10,668	Wellesley P.V.	West Lorne 814	Weston 4,736	Wheatley 724	Windsor 65,565	Woodbridge 744	Woodstock 10,956
73,059.45	....	....	11,903.31	....	312,236.33	....	35,489.71
56,576.25	....	....	32,737.85	....	678,250.86	....	93,838.15
131,470.15	6,691.79	11,321.69	60,108.79	14,843.74	754,463.75	17,730.00	101,168.78
7,470.91	....	....	....	....	141,798.67	....	....
57,311.64	2,153.50	4,274.36	34,379.30	4,443.64	343,932.20	5,776.33	55,243.46
56,249.15	2,464.94	3,091.23	22,587.91	3,887.49	329,751.12	4,273.32	53,949.56
4,246.63	545.11	643.57	30,041.06	1,659.26	37,377.41	423.26	15,068.12
36,513.75	....	....	....	....	693,788.56	....	....
10,839.08	127.38	347.14	6,313.68	803.82	125,740.85	817.20	2,794.78
....	....	....	....	....	....	....	....
50,069.48	....	1,250.00	....	2,569.50	141,990.11	....	....
....	....	....	....	....	....	....	....
483,806.49	11,982.72	20,927.99	198,071.90	28,207.45	3,559,329.86	28,020.11	357,552.56
4,340.71	320.32	873.55	5,694.61	3,506.13	33,060.24	357.47	26,166.79
30,458.65	....	3,000.00	....	1,500.00	112,463.80	....	86,000.00
20,702.86	51.17	328.80	8,966.00	227.83	133,422.84	848.05	3,069.91
17,893.73	....	....	165.00	....	84,923.23	18.36	374.63
108,771.53	....	....	....	....	120,519.10	....	50,999.37
148,814.76	9,904.27	16,699.36	125,872.53	6,384.47	1,056,217.61	16,082.48	210,352.26
5,169.65	....	....	....	....	....	....	5,564.39
819,958.38	22,258.48	41,829.70	338,770.04	39,825.88	5,099,936.68	45,326.47	740,079.91
....	....	....	....	....	....	....	....
819,958.38	22,258.48	41,829.70	338,770.04	39,825.88	5,099,936.68	45,326.47	740,079.91
257,249.38	1,747.84	5,145.27	38,410.61	8,199.66	1,334,783.01	5,040.43	75,894.20
44,521.42	444.93	103.59	....	353.07	65,350.00	3,052.14	4,589.08
....	....	....	....	....	....	....	....
43,233.20	....	....	2,155.46	35.00	750,036.31	240.09	5,564.39
345,004.00	2,192.77	5,248.86	40,566.07	8,587.73	2,150,169.32	8,332.66	86,047.67
148,814.76	9,904.27	16,699.36	125,872.53	6,384.47	1,056,217.61	16,082.48	210,352.26
112,923.96	2,168.34	5,783.14	30,625.81	2,929.42	395,106.44	6,628.66	125,853.55
2,404.87	....	....	....	....	138,012.99	....	13,134.05
264,143.59	12,072.61	22,482.50	156,498.34	9,313.89	1,589,337.04	22,711.14	349,339.86
41,750.62	5,752.16	2,854.73	31,621.83	4,800.34	655,217.02	3,459.54	51,491.43
108,771.53	....	....	....	....	120,519.10	....	50,999.37
60,288.64	2,240.94	11,243.61	110,083.80	17,123.92	584,694.20	10,823.13	202,201.58
210,810.79	7,993.10	14,098.34	141,705.63	21,924.26	1,360,430.32	14,282.67	304,692.38
819,958.38	22,258.48	41,829.70	338,770.04	39,825.88	5,099,936.68	45,326.47	740,079.91
48.6	17.7	20.8	19.0	25.7	43.4	28.5	6.2

STATEMENT

Balance Sheets of Electrical Departments of

NIAGARA SYSTEM—Concluded

Municipality	Wyoming	York Twp.	Zurich	NIAGARA SYSTEM SUMMARY
Population	482		P.V.	
ASSETS	$ c.	$ c.	$ c.	$ c.
Lands and buildings				8,824,114.16
Substation equipment				20,837,708.34
Distribution system—overhead	7,336.07	772,073.02	6,932.37	16,955,410.84
Distribution system—underground				5,556,486.79
Line transformers	1,257.61		1,643.52	8,154,866.70
Meters	2,311.10		2,270.21	6,936,257.77
Street light equipment, regular	289.62	49,765.60	471.82	1,744,843.70
Street light equipment, ornamental				1,458,443.68
Miscellaneous construction expense	805.20	19,070.96	240.77	3,663,846.72
Steam or hydraulic plant				13,244.74
Old plant			150.00	4,403,238.16
Other plants not distributed				200,000.00
Total plant	11,999.60	840,909.58	11,708.69	78,748,461.60
Bank and cash balance	32.20	94,214.56	1,291.14	1,354,901.08
Securities and investments			2,000.00	735,567.45
Accounts receivable	315.44	13,089.47	13.86	3,182,004.70
Inventories				1,076,929.55
Sinking fund on local debentures				8,016,069.90
Equity in H-E.P.C. systems	4,467.98		7,563.75	23,196,330.36
Other assets	45.00	19,420.29		249,586.23
Total assets	16,860.22	967,633.90	22,577.44	116,559,850.87
Deficit	2,112.46			14,494.35
Total	18,972.68	967,633.90	22,577.44	116,574,345.22
LIABILITIES				
Debenture balance	1,639.52	409,365.43	3,742.80	38,275,850.97
Accounts payable	307.06	32,498.52	302.04	2,805,142.07
Bank overdraft				154,550.92
Other liabilities	45.00		16.02	3,724,456.24
Total liabilities	1,991.58	441,863.95	4,060.86	44,960,000.20
RESERVES				
For equity in H-E.P.C. systems	4,467.98		7,563.75	23,196,330.36
For depreciation	4,452.64	146,967.70	4,025.25	13,330,347.14
Other reserves				1,589,857.32
Total reserves	8,920.62	146,967.70	11,589.00	38,116,534.82
SURPLUS				
Debentures paid	8,060.48	190,634.57	1,848.81	14,911,550.87
Local sinking fund				8,016,069.90
Operating surplus		188,167.68	5,078.77	10,570,189.43
Total surplus	8,060.48	378,802.25	6,927.58	33,497,810.20
Total liabilities, reserves and surplus	18,972.68	967,633.90	22,577.44	116,574,345.22
Percentage of net debt to total assets	32.8	45.7	27.0	42.3

"A"—Continued

Hydro Municipalities as at December 31, 1933

GEORGIAN BAY SYSTEM

Alliston 1,379	Arthur 1,037	Barrie 7,455	Beaverton 960	Beeton 584	Bradford 1,009	Brechin P.V.	Cannington 851
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	....	14,199.11	299.50	....	....	....	....
675.73	....	15,279.30	....	428.50	388.50	....	....
26,609.18	17,169.34	56,509.52	20,956.37	11,710.00	19,057.00	1,789.59	10,008.17
....	....	66,437.67	....	....	....	....	....
7,039.73	3,961.15	42,184.26	6,731.49	2,188.63	4,072.65	1,126.71	4,156.88
7,110.66	3,382.92	40,238.97	5,618.48	1,931.95	3,898.73	726.95	4,214.51
1,522.69	767.21	12,063.80	1,173.58	1,169.54	544.95	212.44	924.69
....	....	....	....	....	....	....	....
2,565.49	382.26	7,612.84	2,583.41	1,433.38	1,828.94	546.92	644.33
....	....	....	....	....	....	....	....
7,846.49	1,086.62	42,634.32	3,772.42	....	....	....	3,609.37
....	....	....	....	....	....	....	....
53,369.97	26,749.50	297,159.79	41,135.25	18,862.00	29,790.77	4,402.61	23,557.95
340.90	33.57	5,087.92	1,065.55	493.59	1,945.87	412.38	10.00
....	....	....	9,000.00	....	1,000.00	....	1,326.62
2,475.70	215.94	12,943.01	1,201.13	1,186.69	2,950.55	1,077.07	1,768.49
....	10.20	94.77	17.85	11.22	22.62	....	175.92
....	....	....	....	....	....	....	....
11,295.94	10,746.86	73,212.70	12,230.73	8,727.20	9,628.32	4,761.23	9,119.57
....	....	....	....	....	....	....	....
67,482.51	37,756.07	388,498.19	64,650.51	29,280.70	45,338.13	10,653.29	35,958.55
....	11,514.07	....	....	1,590.95	....	....	....
67,482.51	49,270.14	388,498.19	64,650.51	30,871.65	45,338.13	10,653.29	35,958.55
25,981.75	17,642.69	26,798.16	6,623.12	10,128.17	18,182.07	2,153.26	7,967.85
93.75	2,574.06	34,823.65	176.25	785.80	536.57	290.87	90.57
....	....	....	....	....	....	....	437.82
....	....	3.00	378.47	....	175.98	21.85	....
26,075.50	20,216.75	61,624.81	7,177.84	10,913.97	18,894.62	2,465.98	8,496.24
11,295.94	10,746.86	73,212.70	12,230.73	8,727.20	9,628.32	4,761.23	9,119.57
13,193.34	10,949.22	59,932.40	11,187.92	6,358.65	7,477.14	1,664.18	7,378.27
....	....	1,100.00	....	....	....	....	....
24,489.28	21,696.08	134,245.10	23,418.65	15,085.85	17,105.46	6,425.41	16,497.84
14,018.25	7,357.31	81,201.84	8,376.88	4,871.83	7,017.93	1,057.66	7,032.15
....						....	....
2,899.48	....	111,426.44	25,677.14	....	2,320.12	704.24	3,932.32
16,917.73	7,357.31	192,628.28	34,054.02	4,871.83	9,338.05	1,761.90	10,964.47
67,482.51	49,270.14	388,498.19	64,650.51	30,871.65	45,338.13	10,653.29	35,958.55
46.4	74.9	19.5	13.7	53.1	52.9	41.9	31.7

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

	Chatsworth 272	Chesley 1,789	Coldwater 626	Collingwood 5,783	Cookstown P.V.
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	221.00		275.00	15,950.08	60.00
Substation equipment		595.98		11,203.24	392.95
Distribution sustem—overhead	4,560.47	19,892.45	7,675.00	47,964.46	9,131.52
Distribution system—underground					
Line transformers	1,531.99	6,781.32	2,779.67	17,011.28	2,192.62
Meters	1,377.30	6,714.58	2,932.65	22,144.71	2,117.12
Street light equipment, regular	529.17	1,173.68	440.68	2,876.90	694.21
Street light equipment, ornamental					
Miscellaneous construction expense	385.90	3,264.32	173.52	6,165.17	1,520.03
Steam or hydraulic plant					
Old plant		5,503.60			
Other plants not distributed					
Total plant	8,605.83	43,925.93	14,276.52	123,315.84	16,108.45
Bank and cash balance	2,403.79	15.00	1,544.09	100.00	3,005.03
Securities and investments		10,000.00	4,000.00	27,000.00	
Accounts receivable	374.06	2,652.17	801.92	1,743.73	896.20
Inventories	4.90	265.49		399.06	17.34
Sinking fund on local debentures	3,234.69				
Equity in H-E.P.C. systems	2,277.29	18,843.00	7,205.13	80,932.71	2,675.43
Other assets					
Total assets	16,900.56	75,701.59	27,827.66	233,491.34	22,702.45
Deficit					
Total	16,900.56	75,701.59	27,827.66	233,491.34	22,702.45
LIABILITIES					
Debenture balance	4,600.09	5,030.54	3,630.30		6,556.37
Accounts payable	142.95	3.40	466.72		
Bank overdraft		1,850.60		7,285.52	
Other liabilities			64.00	1,768.70	
Total liabilities	4,743.04	6,884.54	4,161.02	9,054.22	6,556.37
RESERVES					
For equity in H-E.P.C. systems	2,277.29	18,843.00	7,205.13	80,932.71	2,675.43
For depreciation	2,786.38	13,810.48	6,947.36	40,788.04	5,834.73
Other reserves					
Total reserves	5,063.67	32,653.48	14,152.49	121,720.75	8,510.16
SURPLUS					
Debentures paid	799.91	22,469.46	3,369.70	42,604.59	6,943.63
Local sinking fund	3,234.69				
Operating surplus	3,059.25	13,694.11	6,144.45	60,111.78	692.29
Total surplus	7,093.85	36,163.57	9,514.15	102,716.37	7,635.92
Total liabilities, reserves and surplus	16,900.56	75,701.59	27,827.66	233,491.34	22,702.45
Percentage of net debt to total assets	13.2	12.1	20.2	5.9	32.7

"A"—Continued

Hydro Municipalities as at December 31, 1933

Creemore 587	Dundalk 647	Durham 1,800	Elmvale P.V.	Elmwood P.V.	Flesherton 491	Grand Valley 587	Gravenhurst 1,830
...	...	56.59	106.25	...	...	36.50	3,526.17
...	...	546.02	2,273.07	...	...	...	5,293.35
7,291.01	7,715.03	21,672.38	8,248.86	4,812.76	5,446.88	11,341.14	25,813.61
...	...	...	...	...	...	...	...
3,171.36	3,435.53	6,890.62	3,959.64	803.88	1,802.52	2,179.63	7,330.04
2,955.37	2,494.99	6,873.66	3,254.07	992.73	2,183.55	2,724.23	9,033.70
295.27	1,082.10	1,381.46	447.17	302.28	720.51	503.83	3,904.71
...	...	...	...	...	...	...	...
279.27	416.38	1,693.58	542.13	1,093.62	934.82	205.70	2,062.32
...	...	...	...	...	...	...	...
3,433.74	380.94	2,091.39	...	...	...	919.85	28,055.29
...	...	...	...	...	...	...	...
17,426.02	15,524.97	41,205.70	18,831.19	8,005.27	11,088.28	17,910.88	85,019.19
288.76	229.70	...	3,204.44	1,419.21	2,828.68	997.89	1,703.49
...	3,000.00	8,000.00	...	...	...	2,128.60	...
508.76	38.05	2,177.12	714.99	602.37	246.04	1,051.91	6,428.32
10.20	39.78	56.47	...	8.10	19.40	...	672.99
...	...	...	...	386.40	...	...	7,875.98
6,686.98	6,385.69	17,853.68	8,963.33	2,053.66	3,628.75	6,573.09	11,934.82
...	...	...	...	...	...	...	...
24,920.72	25,218.19	69,292.97	31,713.95	12,475.01	17,811.15	28,662.37	113,634.79
...	...	...	...	...	...	...	...
24,920.72	25,218.19	69,292.97	31,713.95	12,475.01	17,811.15	28,662.37	113,634.79
534.79	774.06	3,243.19	3,236.60	2,617.46	3,716.89	2,563.49	10,815.64
1,611.99	38.05	119.10	455.36	...	66.39	30.56	4,371.58
...	...	1,122.31	...	...	...	...	...
...	...	...	...	...	...	...	...
2,146.78	812.11	4,484.60	3,691.96	2,617.46	3,783.28	2,594.05	15,187.22
6,686.98	6,385.69	17,853.68	8,963.33	2,053.66	3,628.75	6,573.09	11,934.82
3,195.79	3,914.14	10,294.40	6,646.79	2,740.38	3,652.07	5,220.18	16,984.02
...	...	...	...	...	...	...	725.00
9,882.77	10,299.83	28,148.08	15,610.12	4,794.04	7,280.82	11,793.27	29,643.84
5,965.21	5,562.84	22,556.81	3,763.40	4,582.54	2,983.11	8,436.51	53,152.77
...	...	...	...	386.40	...	...	7,875.98
6,925.96	8,543.41	14,103.48	8,648.47	94.57	3,763.94	5,838.54	7,774.98
12,891.17	14,106.25	36,660.29	12,411.87	5,063.51	6,747.05	14,275.05	68,803.73
24,920.72	25,218.19	69,292.97	31,713.95	12,475.01	17,811.15	28,662.37	113,634.79
11.8	4.3	8.7	16.2	22.2	26.7	11.7	14.9

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality	Hanover	Holstein	Huntsville	Kincardine	Kirkfield
Population	3,036	P.V.	2,507	2,429	P.V.
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	3,001.32	....	353.52	6,389.46	....
Substation equipment	9,271.19	....	647.30	2,794.20	....
Distribution system—overhead	48,940.62	2,102.68	13,139.83	42,159.41	5,113.67
Distribution system—underground	....	....	....	....	....
Line transformers	17,109.90	571.82	6,767.62	10,712.42	557.90
Meters	15,506.91	514.82	8,673.71	10,492.19	701.85
Street light equipment, regular	2,326.30	168.69	2,262.52	5,200.12	379.00
Street light equipment, ornamental	....	....	....	....	....
Miscellaneous construction expense	5,267.64	205.93	566.45	5,320.59	301.53
Steam or hydraulic plant	....	....	....	....	....
Old plant	2,370.91	....	5,436.20	....	....
Other plants not distributed	....	....	....	....	....
Total plant	103,794.79	3,563.94	37,847.15	83,068.39	7,053.95
Bank and cash balance	1,582.81	380.24	3,883.45	50.00	294.05
Securities and investments	26,699.39	....	13,000.00	....	....
Accounts receivable	2,542.84	136.07	1,480.61	590.42	936.81
Inventories	114.36	67.87	2,064.60	1,243.31	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	45,822.14	2,093.02	30,684.78	18,529.52	1,744.11
Other assets	....	....	....	111.54	....
Total assets	180,556.33	6,241.14	88,960.59	103,593.18	10,028.92
Deficit	....	4,665.82	....	....	1,339.48
Total	180,556.33	10,906.96	88,960.59	103,593.18	11,368.40
LIABILITIES					
Debenture balance	33,987.83	225.54	2,393.71	31,103.03	2,572.46
Accounts payable	54.57	4,927.71	3,059.92	1,896.96	1,620.22
Bank overdraft	....	....	....	297.79	....
Other liabilities	....	....	544.50	....	....
Total liabilities	34,042.40	5,153.25	5,998.13	33,297.78	4,192.68
RESERVES					
For equity in H-E.P.C. systems	45,822.14	2,093.02	30,684.78	18,529.52	1,744.11
For depreciation	36,590.63	1,124.18	12,125.08	15,626.77	2,004.07
Other reserves	....	....	....	....	....
Total reserves	82,412.77	3,217.20	42,809.86	34,156.29	3,748.18
SURPLUS					
Debentures paid	53,512.17	2,536.51	18,739.83	33,096.97	3,427.54
Local sinking fund	....	....	....	....	....
Operating surplus	10,588.99	....	21,412.77	3,042.14	....
Total surplus	64,101.16	2,536.51	40,152.60	36,139.11	3,427.54
Total liabilities, reserves and surplus	180,556.33	10,906.96	88,960.59	103,593.18	11,368.40
Percentage of net debt to total assets	25.3	124.2	10.2	39.1	50.6

"A"—Continued

Hydro Municipalities as at December 31, 1933

Lucknow 1,082	Markdale 774	Meaford 2,707	Midland 6,808	Mildmay 694	Mount Forest 1,821	Neustadt 465	Orangeville 2,785
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	....	1,104.93	19,983.57	....	3,725.00	....	2,585.07
....	780.80	2,398.85	85,096.20	....	686.75	....	1,169.00
17,009.20	10,503.49	30,015.36	93,649.38	6,001.09	22,682.88	9,970.79	32,266.89
....	....	....	....	....	....	....	....
4,385.00	4,151.74	7,278.23	22,972.26	1,657.05	6,594.59	3,624.89	7,922.99
4,717.22	3,244.99	7,317.62	36,046.39	2,129.16	7,294.95	2,017.85	11,400.36
1,391.17	1,314.08	3,215.81	18,712.15	502.80	2,302.55	496.41	7,532.55
....	....	....	....	....	....	....	....
2,322.02	674.93	1,987.27	5,386.19	836.82	2,127.00	1,521.48	6,243.69
....	....	....	....	....	....	....	....
....	2,080.65	3,486.43	....	849.00	3,810.95	1,097.60	3,204.99
....	....	....	....	....	....	....	....
29,824.61	22,750.68	56,804.50	281,846.14	11,975.92	49,224.67	18,729.02	72,325.54
1,236.22	1,110.39	2,812.48	75.00	1,190.61	....	8.11	921.53
4,000.00	1,255.13	16,083.05	29,000.00	....	4,000.00	....	2,500.00
1,386.42	936.11	1,780.17	19,199.98	945.94	1,718.29	37.22	1,814.79
8.52	35.00	....	4,127.10	....	....	18.20	284.96
....	....	....	....	....	....	....	....
9,186.02	5,032.19	12,735.65	125,095.10	226.15	16,380.02	5,502.73	21,353.58
....	....	....	....	....	....	....	....
45,641.79	31,119.50	90,215.85	459,343.32	14,338.62	71,322.98	24,295.28	99,200.40
....	....	....	....	....	....	16,712.99	....
45,641.79	31,119.50	90,215.85	459,343.32	14,338.62	71,322.98	41,008.27	99,200.40
10,801.77	5,482.32	34,814.09	29,703.26	11,895.23	11,721.92	6,741.81	7,992.00
67.28	738.58	....	33,883.74	85.53	250.00	12,022.60	1,021.55
....	....	....	2,034.42	....	660.41	....	....
....	20.00	757.89	772.64	....	....	....	....
10,869.05	6,240.90	35,571.98	66,394.06	11,980.76	12,632.33	18,764.41	9,013.55
9,186.02	5,032.19	12,735.65	125,095.10	226.15	16,380.02	5,502.73	21,353.58
5,268.25	4,953.50	9,182.03	110,915.85	206.00	14,338.12	6,482.94	19,878.88
....	....	....	....	....	....	....	....
14,454.27	9,985.69	21,917.68	236,010.95	432.15	30,718.14	11,985.67	41,232.46
8,921.59	3,517.68	14,546.11	82,366.73	408.27	19,236.68	10,258.19	27,908.00
....	....	....	....	....	....	....	....
11,396.88	11,375.23	18,180.08	74,571.58	1,517.44	8,735.83	....	21,046.39
20,318.47	14,892.91	32,726.19	156,938.31	1,925.71	27,972.51	10,258.19	48,954.39
45,641.79	31,119.50	90,215.85	459,343.32	14,338.62	71,322.98	41,008.27	99,200.40
29.8	23.9	45.9	19.8	84.9	24.9	99.9	11.6

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality Population	Owen Sound 12,803	Paisley 732	Penetanguishene 4,046	Port Elgin 1,230	Port McNicoll 928
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	25,978.31		2,262.10	111.25	369.08
Substation equipment	12,919.97	1,933.26	7,076.39		
Distribution system—overhead	106,461.46	11,504.45	41,283.35	25,301.65	7,448.38
Distribution system—underground					
Line transformers	46,603.72	1,602.53	15,661.52	5,335.48	1,322.48
Meters	56,436.43	2,930.91	13,754.34	6,039.69	2,497.83
Street light equipment, regular	27,532.69	1,045.51	3,503.33	2,057.10	422.33
Street light equipment, ornamental					
Miscellaneous construction expense	3,879.83	885.45	1,530.00	759.34	659.19
Steam or hydraulic plant	33,282.00				
Old plant		1,745.00		4,213.00	
Other plants not distributed					
Total plant	313,094.41	21,647.11	85,071.03	43,817.51	12,719.29
Bank and cash balance	688.88	609.71		5,394.35	78.99
Securities and investments		2,500.00	1,152.98	7,500.00	
Accounts receivable	17,691.85	506.94	6,992.36	695.24	306.22
Inventories	10,699.29		467.76	27.64	11.70
Sinking fund on local debentures					
Equity in H-E.P.C. systems	101,536.38	5,273.82	36,078.52	1,938.03	3,328.98
Other assets					
Total assets	443,710.81	30,537.58	129,762.65	59,372.77	16,445.18
Deficit					
Total	443,710.81	30,537.58	129,762.65	59,372.77	16,445.18
LIABILITIES					
Debenture balance		10,091.92	15,587.71	37,995.69	2,070.25
Accounts payable	1.00	17.50	7,335.47	4,498.92	677.47
Bank overdraft	4,098.74		2,386.80		
Other liabilities	2,667.72			20.00	
Total liabilities	6,767.46	10,109.42	25,309.98	42,514.61	2,747.72
RESERVES					
For equity in H-E.P.C. systems	101,536.38	5,273.82	36,078.52	1,938.03	3,328.98
For depreciation	59,025.51	3,623.07	31,117.49	2,184.18	4,101.83
Other reserves					
Total reserves	160,561.89	8,896.89	67,196.01	4,122.21	7,430.81
SURPLUS					
Debentures paid	141,000.00	5,908.08	25,412.29	4,004.31	5,229.75
Local sinking fund					
Operating surplus	135,381.46	5,623.19	11,844.37	8,731.64	1,036.90
Total surplus	276,381.46	11,531.27	37,256.66	12,735.95	6,266.65
Total liabilities, reserves and surplus	443,710.81	30,537.58	129,762.65	59,372.77	16,445.18
Percentage of net debt to total assets	1.9	40.0	27.0	74.0	20.9

"A"—Continued

Hydro Municipalities as at December 31, 1933

Port Perry	Priceville	Ripley	Rosseau	Shelburne	Southampton	Stayner	Sunderland
1,130	P.V.	451	251	1,064	1,520	1,042	P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	68.00	....	....	800.00	25.00	....	....
2,564.65	....	....	....	566.60	....	200.00	....
18,957.29	4,661.78	9,975.19	7,102.01	14,735.46	19,252.84	12,527.17	4,158.87
....	....	....	....	....	....	....	....
4,391.61	702.86	3,540.24	2,204.63	6,215.47	5,833.56	5,380.00	1,365.63
3,990.22	380.00	1,434.83	1,032.67	6,411.08	6,964.94	5,227.20	1,998.01
1,037.90	139.88	844.33	436.95	1,059.60	1,958.73	966.80	627.74
....	....	....	....	....	....	....	....
176.42	833.90	1,164.99	1,126.07	2,273.26	1,276.60	326.63	178.02
....	....	....	....	....	....	....	....
....	....	....	....	739.50	2,077.00	4,132.41	2,030.00
....	....	....	....	....	....	....	....
31,118.09	6,786.42	16,959.58	11,902.33	32,800.97	37,388.67	28,760.21	10,358.27
1,589.23	139.92	1,127.09	752.99	....	2,549.49	444.79	1,965.18
10,000.00	....	....	....	5,000.00	....	4,000.00	1,000.00
619.41	54.34	413.09	1,505.29	726.63	1,344.96	664.40	374.90
46.41	4.08	22.34	....	82.19	23.15	....	9.39
....	....	....	....	....	....	....	....
7,789.28	838.98	3,882.39	790.05	10,112.03	1,993 07	8,696.77	6,183.71
....	....	....	....	....	....	....	....
51,162.42	7,823.74	22,404.49	14,950.66	48,721.82	43,299.34	42,566.17	19,891.45
....	6,995.38	....	....	....	....	....	....
51,162.42	14,819.12	22,404.49	14,950.66	48,721.82	43,299.34	42,566.17	19,891.45
14,961.30	2,920.31	10,389.37	13,000.00	4,306.73	24,930.96	1,165.63	3,006.79
5.38	5,384.44	43.15	19.15	1,283.26	332.60	706.76	2,156.84
....	....	....	....	238.54	....	....	....
273.99	....	70.00	....	....	....	25.00	....
15,240.67	8,304.75	10,502.52	13,019.15	5,828.53	25,263.56	1,897.39	5,163.63
7,789.28	838.98	3,882.39	790.05	10,112.03	1,993.07	8,696.77	6,183.71
5,827.11	1,595.70	3,127.76	492.47	10,273.07	1,847.00	9,032.87	3,176.56
....	....	....	648.99	....	....	....	....
13,616.39	2,434.68	7,010.15	1,931.51	20,385.10	3,840.07	17,729.64	9,360.27
4,920.36	4,079.69	3,582.57	....	15,613.27	8,069.04	12,834.37	3,793.21
....	....	....	....	....	....	....	....
17,385.00	....	1,309.25	....	6,894.92	6,126.67	10,104.77	1,574.34
22,305.36	4,079.69	4,891.82	....	22,508.19	14,195.71	22,939.14	5,367.55
51,162.42	14,819.12	22,404.49	14,950.66	48,721.82	43,299.34	42,566.17	19,891.45
35.1	118.9	56.8	91.9	15.1	61.1	5.6	37.7

STATEMENT

Balance Sheets of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality	Tara	Teeswater	Thornton	Tottenham	Uxbridge
Population	491	805	P.V.	546	1,506
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	....	....	....	....	40.00
Substation equipment	....	330.31	....	358.50	2,657.65
Distribution system—overhead	10,999.17	16,987.54	6,403.82	8,055.08	13,388.67
Distribution system—underground	2,176.95	....	....	....	....
Line transformers	1,719.24	4,746.02	860.41	1,117.48	3,875.43
Meters	430.59	3,315.65	796.76	2,109.02	4,475.05
Street light equipment, regular	....	1,406.90	381.95	460.17	1,259.64
Street light equipment, ornamental	1,269.05	....	....	....	....
Miscellaneous construction expense	....	1,907.49	300.35	1,265.68	910.15
Steam or hydraulic plant	....	....	....	....	....
Old plant	....	4,976.86	....	286.45	....
Other plants not distributed	....	....	....	....	....
Total plant	16,595.00	33,670.77	8,743.29	13,652.38	26,606.59
Bank and cash balance	1,530.50	558.28	396.61	448.48	....
Securities and investments	....	3,000.00	....	....	8,000.00
Accounts receivable	289.00	348.96	323.16	987.60	1,033.14
Inventories	61.20	....	....	24.48	6.12
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	4,661.32	6,444.10	1,777.80	5,592.84	8,297.67
Other assets	....	....	....	....	....
Total assets	23,137.02	44,022.11	11,240.86	20,705.78	43,943.52
Deficit	3,001.19	....	4,362.14	3,108.43	....
Total	26,138.21	44,022.11	15,603.00	23,814.21	43,943.52
LIABILITIES					
Debenture balance	5,497.64	12,157.05	3,389.31	7,629.59	11,860.05
Accounts payable	38.25	3,847.88	2,604.20	498.99	....
Bank overdraft	....	....	....	....	658.19
Other liabilities	....	4.00	....	154.06	5.00
Total liabilities	5,535.89	16,008.93	5,993.51	8,282.64	12,523.24
RESERVES					
For equity in H-E.P.C. systems	4,661.32	6,444.10	1,777.80	5,592.84	8,297.67
For depreciation	5,938.64	4,406.16	3,721.00	4,601.22	4,553.14
Other reserves	....	....	....	....	....
Total reserves	10,599.96	10,850.26	5,498.80	10,194.06	12,850.81
SURPLUS					
Debentures paid	10,002.36	15,842.95	4,110.69	5,337.51	4,347.54
Local sinking fund	....	....	....	....	....
Operating surplus	....	1,319.97	....	....	14,221.93
Total surplus	10,002.36	17,162.92	4,110.69	5,337.51	18,569.47
Total liabilities, reserves and surplus	26,138.21	44,022.11	15,603.00	23,814.21	43,943.52
Percentage of net debt to total assets	30.0	42.6	63.3	54.8	35.1

"A"—Continued

Hydro Municipalities as at December 31, 1933

Victoria Harbor 1,171	Walkerton 2,340	Waubaushene P.V.	Wiarton 1,911	Windermere 135	Wingham 1,842	Woodville 414	GEORGIAN BAY SYSTEM SUMMARY
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
...	...	...	...	...	9,163.34	...	110,690.15
...	...	...	...	...	4,863.91	...	173,392.17
8,616.56	39,551.62	6,129.60	21,291.32	9,169.96	40,474.75	2,970.40	1,146,338.42
...	...	...	...	...	...	...	66,437.67
1,278.18	10,638.64	1,556.06	5,554.58	2,852.40	15,635.95	2,127.54	378,217.38
2,252.25	10,475.11	1,810.39	5,780.34	865.05	14,188.17	2,116.14	401,981.17
366.32	2,276.74	221.79	1,950.58	247.26	3,371.64	217.55	132,759.04
...	...	...	...	...	...	...	...
667.12	1,984.43	370.39	5,001.65	354.57	4,930.59	275.21	103,402.25
...	...	...	...	...	14,711.99	...	47,993.99
...	5,238.00	...	3,981.00	...	12,320.02	2,182.50	165,592.50
...	...	...	...	...	...	...	...
13,180.43	70,164.54	10,088.23	43,559.47	13,489.24	119,660.36	9,889.34	2,726,804.74
328.50	4,198.07	1,911.68	2,402.59	10.00	30.00	546.85	68,376.93
...	...	...	...	...	9,000.00	5,000.00	218,145.77
514.38	1,878.86	255.78	457.08	1,367.46	1,250.88	895.27	117,057.09
16.32	578.52	22.00	31.96	...	5,671.97	...	27,596.75
...	...	...	...	...	...	...	11,497.07
3,642.44	3,921.66	2,070.83	3,047.88	722.32	18,287.75	6,229.56	863,259.30
...	...	...	...	...	...	...	111.54
17,682.07	80,741.65	14,348.52	49,498.98	15,589.02	153,900.96	22,561.02	4,032,849.19
...	...	...	...	...	...	...	53,290.45
17,682.07	80,741.65	14,348.52	49,498.98	15,589.02	153,900.96	22,561.02	4,086,139.64
1,004.26	59,094.17	559.40	36,268.93	4,530.68	35,153.07	2,868.88	672,671.15
49.96	25.88	13.30	331.12	8,378.61	...	75.77	144,632.18
...	...	...	...	188.38	2,234.15	...	23,493.67
...	5.00	...	5.00	345.00	444.77	...	8,526.57
1,054.22	59,125.05	572.70	36,605.05	13,442.67	37,831.99	2,944.65	849,323.57
3,642.44	3,921.66	2,070.83	3,047.88	722.32	18,287.75	6,229.56	863,259.30
3,758.26	2,630.78	2,177.94	2,014.94	883.88	22,444.34	2,077.27	674,284.37
...	...	...	...	189.57	...	...	2,663.56
7,400.70	6,552.44	4,248.77	5,062.82	1,795.77	40,732.09	8,306.83	1,540,207.23
5,495.74	3,905.83	2,940.60	1,131.07	...	60,952.43	2,631.12	943,745.38
...	...	...	...	...	...	...	11,497.07
3,731.41	11,158.33	6,586.45	6,700.04	350.58	14,384.45	8,678.42	741,366.39
9,227.15	15,064.16	9,527.05	7,831.11	350.58	75,336.88	11,309.54	1,696,608.84
17,682.07	80,741.65	14,348.52	49,498.98	15,589.02	153,900.96	22,561.02	4,086,139.64
7.5	77.0	4.7	78.8	90.4	28.0	18.0	26.4

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM

Municipality	Alexandria	Apple Hill	Athens	Bath	Belleville
Population	2,340	P.V.	582	350	14,059
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings		169.06			36,108.70
Substation equipment					2,338.65
Distribution system—overhead	27,957.65	2,886.41	13,951.89	5,819.73	105,110.27
Distribution system—underground					
Line transformers	8,080.79	1,288.37	1,757.05	1,011.93	23,330.54
Meters	6,909.32	1,000.21	2,479.53	676.87	55,180.56
Street light equipment, regular	2,224.20	421.12	698.90	554.37	17,220.75
Street light equipment, ornamental					
Miscellaneous construction expense	5,122.65	210.33	1,011.61	727.38	5,601.97
Steam or hydraulic plant					
Old plant	4,466.89	709.55			
Other plants not distributed					
Total plant	54,761.50	6,685.05	19,898.98	8,790.28	244,891.44
Bank and cash balance	2,611.41	282.51	1,152.51	11.76	17,671.22
Securities and investments	7,000.00				5,000.00
Accounts receivable	1,876.12	143.53	2,069.44	666.78	15,601.29
Inventories					7,079.79
Sinking fund on local debentures					
Equity in H-E.P.C. systems	17,415.16	1,689.16	2,458.42	418.12	59,864.19
Other assets					
Total assets	83,664.19	8,800.25	25,579.35	9,886.94	350,107.93
Deficit		323.54			
Total	83,664.19	9,123.79	25,579.35	9,886.94	350,107.93
LIABILITIES					
Debenture balance	19,798.16	3,348.68	11,759.10	7,284.91	52,000.00
Accounts payable	3,571.45	106.37		1,605.84	
Bank overdraft					
Other liabilities	466.23			22.00	5,443.34
Total liabilities	23,835.84	3,455.05	11,759.10	8,912.75	57,443.34
RESERVES					
For equity in H-E.P.C. systems	17,415.16	1,689.16	2,458.42	418.12	59,864.19
For depreciation	10,513.76	1,328.26	1,952.75	322.00	20,090.75
Other reserves					1,177.47
Total reserves	27,928.92	3,017.42	4,411.17	740.12	81,132.41
SURPLUS					
Debentures paid	28,335.68	2,651.32	2,240.90	215.09	124,000.00
Local sinking fund					
Operating surplus	3,563.75		7,168.18	18.98	87,532.18
Total surplus	31,899.43	2,651.32	9,409.08	234.07	211,532.18
Total liabilities, reserves and surplus	83,664.19	9,123.79	25,579.35	9,886.94	350,107.93
Percentage of net debt to total assets	35.9	48.6	50.9	95.2	19.8

"A"—Continued

Hydro Municipalities as at December 31, 1933

Bloomfield 614	Bowmanville 3,641	Brighton 1,413	Brockville 9,615	Cardinal 1,305	Carleton Place 4,272	Chesterville 950
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	....	....	45,295.14	....	6,255.32	250.00
410.00	....	....	1,000.87	....	2,471.63	....
11,144.26	43,954.11	14,379.75	83,857.03	10,811.54	41,145.03	7,946.71
....	....	....	....	....	....	....
2,230.77	7,599.91	3,965.45	35,877.33	2,580.91	10,331.16	3,245.64
2,677.82	17,014.21	6,449.20	42,945.18	2,214.16	16,599.67	4,112.97
908.20	2,860.10	821.98	20,434.12	385.27	6,758.16	526.97
....	....	....	....	....	....	....
1,403.42	2,406.53	236.73	3,044.90	759.18	3,580.79	658.68
....	....	....	54,961.03	....	....	....
....	....	....	4,821.76	3,474.80	5,293.19	....
....	....	....	....	....	....	....
18,774.47	73,834.86	25,853.11	292,237.36	20,225.86	92,434.95	16,740.97
....	11,528.65	25.00	783.90	1,183.57	4,319.40	585.95
....	....	....	135,000.00	....	19,000.00	9,000.00
235.33	4,684.85	4,915.73	9,682.82	39.00	5,200.34	723.03
....	3,046.76	4,194.51	2,385.49	....	892.06	608.79
....	....	....	....	....	....	....
2,562.61	11,113.91	3,884.81	90,546.25	1,431.50	40,058.83	17,050.69
....	....	....	....	....	....	....
21,572.41	104,209.03	38,873.16	530,635.82	22,879.93	161,905.58	44,709.43
....	....	....	....	....	....	....
21,572.41	104,209.03	38,873.16	530,635.82	22,879.93	161,905.58	44,709.43
7,202.16	66,486.12	22,558.84	....	13,569.91	43,641.56	1,124.18
979.35	....	5.21	13,877.20	179.43	....	5.40
4.89	....	2,687.69	5,898.12	....	....	....
12.00	560.53	78.00	47.00	....	718.73	....
8,198.40	67,046.65	25,329.74	19,822.32	13,749.34	44,360.29	1,129.58
2,562.61	11,113.91	3,884.81	90,546.25	1,431.50	40,058.83	17,050.69
3,970.96	3,261.50	1,694.13	73,525.48	982.00	10,431.10	7,559.10
....	....	....	6,497.60	....	1,500.00	....
6,533.57	14,375.41	5,578.94	170,569.33	2,413.50	51,989.93	24,609.79
3,997.84	4,513.88	2,441.16	226,657.54	1,430.09	22,358.44	5,375.82
....	....	....	....	....	....	....
2,842.60	18,273.09	5,523.32	113,586.63	5,287.00	43,196.92	13,594.24
6,840.44	22,786.97	7,964.48	340,244.17	6,717.09	65,555.36	18,970.06
21,572.41	104,209.03	38,873.16	530,635.82	22,879.93	161,905.58	44,709.43
43.1	72.0	72.4	4.5	64.1	36.4	4.1

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Cobourg	Colborne	Deseronto	Finch	Hastings
Population	5,619	977	1,418	383	707
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings					
Substation equipment			161.18		
Distribution system—overhead	62,880.91	6,037.64	9,700.34	7,414.99	14,011.23
Distribution system—underground					
Line transformers	15,854.62	670.66	1,442.62	1,393.35	1,771.80
Meters	22,307.76	1,390.75	4,771.27	1,728.20	2,901.40
Street light equipment, regular	8,391.51	1,321.40	432.60	435.62	1,160.09
Street light equipment, ornamental					
Miscellaneous construction expense	4,574.24	2,463.34	305.94	23.24	716.28
Steam or hydraulic plant					
Old plant					1,733.13
Other plants not distributed					
Total plant	114,009.04	11,883.79	16,813.95	10,995.40	22,293.93
Bank and cash balance	17,960.58	1,956.52	3,436.29	108.70	586.86
Securities and investments				3,000.00	5,000.00
Accounts receivable	5,180.48	156.91	691.22	121.29	554.44
Inventories	3,834.53	538.05	721.46		
Sinking fund on local debentures					
Equity in H-E.P.C. systems	8,067.27	337.09	1,951.46	1,781.86	788.72
Other assets					
Total assets	149,051.90	14,872.36	23,614.38	16,007.25	29,223.95
Deficit					
Total	149,051.90	14,872.36	23,614.38	16,007.25	29,223.95
LIABILITIES					
Debenture balance	102,702.35	12,194.59	11,847.71	5,672.68	19,762.33
Accounts payable	4,884.99	45.56	468.54	707.11	13.80
Bank overdraft					
Other liabilities	3,462.03	196.24	192.12		30.00
Total liabilities	111,049.37	12,436.39	12,508.37	6,379.79	19,806.13
RESERVES					
For equity in H-E.P.C. systems	8,067.27	337.09	1,951.46	1,781.86	788.72
For depreciation	3,833.12	188.00	920.92	1,138.00	1,011.60
Other reserves					
Total reserves	11,900.39	525.09	2,872.38	2,919.86	1,800.32
SURPLUS					
Debentures paid	3,291.15		3,152.29	1,327.32	1,237.67
Local sinking fund					
Operating surplus	22,810.99	1,910.88	5,081.34	5,380.28	6,379.83
Total surplus	26,102.14	1,910.88	8,233.63	6,707.60	7,617.50
Total liabilities, reserves and surplus	149,051.90	14,872.36	23,614.38	16,007.25	29,223.95
Percentage of net debt to total assets	78.8	85.5	57.7	44.8	69.6

"A"—Continued

Hydro Municipalities as at December 31, 1933

Havelock	Kemptville	Kingston	Lakefield	Lanark	Lancaster	Lindsay
1,096	1,227	23,260	1,303	636	601	7,109
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
....	....	184,945.77	3,137.97	....	....	10,556.68
572.90	....	45,599.79	....	....	....	3,176.56
19,583.50	19,755.54	165,930.10	21,813.53	6,201.44	6,402.26	71,574.10
....	....	149,557.13	....	....	....	....
2,259.82	5,888.74	58,020.14	5,101.95	1,134.89	962.35	20,920.49
5,387.88	6,490.65	99,915.93	7,070.99	1,796.99	1,433.52	30,341.01
1,842.33	1,063.16	71,262.59	1,876.16	682.38	650.65	10,291.48
....	....	....	....	....	....	....
4,409.17	6,067.28	46,345.74	3,815.70	330.38	1,068.55	1,608.54
....	....	....	....	....	....	....
2,420.45	....	15,890.14	3,445.25	....	....	....
....	....	....	....	....	....	....
36,476.05	39,265.37	837,467.33	46,261.55	10,146.08	10,517.33	148,468.86
2,789.27	760.85	65,301.65	479.65	711.41	357.04	8,431.77
7,000.00	20,000.00	172,175.00	10,000.00	1,982.05	....	46,500.00
262.62	3,116.38	36,132.75	1,270.74	203.48	452.20	4,918.05
....	998.53	9,806.07	....	....	....	424.76
....	....	32,697.13	....	....	....	....
5,666.80	9,967.75	....	4,814.31	3,115.98	4,203.18	34,998.34
....	....	1,000.00	9.74	....	....	....
52,194.74	74,108.88	1,154,579.93	62,835.99	16,159.00	15,529.75	243,741.78
....	....	....	....	....	6,261.95	....
52,194.74	74,108.88	1,154,579.93	62,835.99	16,159.00	21,791.70	243,741.78
16,437.62	18,271.25	104,430.01	25,935.95	3,433.99	3,297.41	108,275.79
63.08	2,208.15	6,361.67	700.00	24.35	5,129.50	19.56
....	....	....	....	....	....	....
....	....	640.96	360.96	....	73.50	1,753.18
16,500.70	20,479.40	111,432.64	26,996.91	3,458.34	8,500.41	110,048.53
5,666.80	9,967.75	....	4,814.31	3,115.98	4,203.18	34,998.34
7,112.47	6,873.22	127,490.12	9,728.63	1,763.25	2,415.10	16,765.26
....	....	161,795.63	....	....	....	....
12,779.27	16,840.97	289,285.75	14,542.94	4,879.23	6,618.28	51,763.60
16,462.38	6,728.75	207,469.99	7,564.05	4,127.48	6,673.01	21,724.21
....	....	32,697.13	....	....	....	....
6,452.39	30,059.76	513,694.42	13,732.09	3,693.95	....	60,205.44
22,914.77	36,788.51	753,861.54	21,296.14	7,821.43	6,673.01	81,929.65
52,194.74	74,108.88	1,154,579.93	62,835.99	16,159.00	21,791.70	243,741.78
35.5	31.9	7.0	46.5	26.5	75.0	52.7

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Madoc	Marmora	Martintown	Maxville
Population	1,059	924	P.V.	785
Assets	$ c.	$ c.	$ c.	$ c.
Lands and buildings	100.00		126.15	
Substation equipment				407.79
Distribution system—overhead	9,680.27	12,591.18	2,709.88	11,463.57
Distribution system—underground				
Line transformers	2,351.64	2,378.99	690.33	1,540.96
Meters	4,786.31	3,395.91	871.51	2,465.30
Street light equipment, regular	1,500.00	1,088.59	335.26	1,605.64
Street light equipment, ornamental				
Miscellaneous construction expense	225.89	2,000.91	653.27	2,402.45
Steam or hydraulic plant				
Old plant		573.62		
Other plants not distributed				
Total plant	18,644.11	22,029.20	5,386.40	19,885.71
Bank and cash balance	2,485.58	4,321.14	965.74	601.47
Securities and investments		657.33	1,000.00	
Accounts receivable	421.49	588.08	248.46	224.46
Inventories				
Sinking fund on local debentures				
Equity in H-E.P.C. systems	2,479.40	2,136.48	1,082.90	5,041.29
Other assets				
Total assets	24,030.58	29,732.23	8,683.50	25,752.93
Deficit				
Total	24,030.58	29,732.23	8,683.50	25,752.93
Liabilities				
Debenture balance	963.20	7,735.98	1,961.14	7,608.74
Accounts payable	51.00	4.18		1.37
Bank overdraft				
Other liabilities		10.00		80.00
Total liabilities	1,014.20	7,750.16	1,961.14	7,690.11
Reserves				
For equity in H-E.P.C. systems	2,479.40	2,136.48	1,082.90	5,041.29
For depreciation	921.05	4,058.21	1,183.37	3,701.66
Other reserves				
Total reserves	3,400.45	6,194.69	2,266.27	8,742.95
Surplus				
Debentures paid	13,036.80	9,930.13	4,038.86	8,391.26
Local sinking fund				
Operating surplus	6,579.13	5,857.25	417.23	928.61
Total surplus	19,615.93	15,787.38	4,456.09	9,319.87
Total liabilities, reserves and surplus	24,030.58	29,732.23	8,683.50	25,752.93
Percentage of net debt to total assets	4.7	28.1	25.8	37.1

"A"—Continued

Hydro Municipalities as at December 31, 1933

Napanee 3,014	Norwood 727	Omemee 498	Oshawa 23,002	Ottawa 130,672	Perth 3,994	Peterborough 22,809
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,173.32	....	....	56,776.03	337,378.21	6,851.01	75,202.75
....	457.53	360.32	....	700,669.39	3,932.82	98,652.41
39,244.37	23,152.45	10,880.65	183,835.78	709,461.28	46,843.70	210,098.39
....	....	....	....	172,744.02	....	....
8,356.22	4,609.18	2,668.47	40,454.32	303,083.73	22,413.35	95,759.24
16,394.23	4,822.00	2,434.79	97,743.58	276,306.34	20,967.92	93,552.08
3,814.09	1,848.52	667.86	15,669.64	117,317.59	3,939.32	53,728.00
....	....	....	....	....	....	....
2,787.40	3,939.32	1,540.92	6,342.36	33,115.49	5,011.75	53,652.16
....	....	....	....	....	....	....
....	2,447.51	....	8,831.65	....	23,606.94	29,771.74
....	....	....	....	....	....	....
72,769.63	41,276.51	18,553.01	409,653.36	2,650,076.05	133,566.81	710,416.77
1,934.74	3,781.32	2,224.49	250.00	2,127.29	5,472.56	330.00
....	8,000.00	....	....	38,000.00	35,000.00	....
4,910.96	171.77	163.22	57,831.30	99,557.41	4,161.21	29,743.35
5,065.45	....	....	8,574.22	22,198.34	7,663.13	5,053.11
....	....	....	....	682,182.51	....	225,737.16
14,478.29	2,711.38	....	186,135.35	52,211 78	34,151.00	117,464.27
....	....	....	304.52	....	328.15	....
99,159.07	55,940.98	20,940.72	662,748.75	3,546,353.38	220,342.86	1,088,744.66
....	....	....	....	....	....	....
99,159.07	55,940.98	20,940.72	662,748.75	3,546,353.38	220,342.86	1,088,744.66
35,031.54	27,760.97	4,003.70	249,672.23	923,627.34	55,526.99	527,920.00
....	583.21	....	24,200.87	94,965.53	268.59	28,249.53
....	....	....	9,831.79	2,895.07	....	4,061.57
532.02	326.30	45.00	18,929.21	....	1,899.59	80.00
35,563.56	28,670.48	4,048.70	302,634.10	1,021,487.94	57,695.17	560,311.10
14,478.29	2,711.38	....	186,135.35	52,211.78	34,151.00	117,464.27
3,091.42	9,011.80	6,047.88	37,436.92	930,274.58	34,625.03	94,929.86
2,983.35	....	....	17,405.24	164,586.88	....	9,400.20
20,553.06	11,723.18	6,047.88	240,977.51	1,147,073.24	68,776.03	221,794.33
34,968.46	9,339.03	7,996.30	60,327.77	56,372.66	52,873.01	....
....	....	....	....	682,182.51	....	225,737.16
8,073.99	6,208.29	2,847.84	58,809.37	639,237.03	40,998.65	80,902.07
43,042.45	15,547.32	10,844.14	119,137.14	1,377,792.20	93,871.66	306,639.23
99,159.07	55,940.98	20,940.72	662,748.75	3,546,353.38	220,342.86	1,088,744.66
42.0	53.9	21.8	63.5	29.2	31.0	44.9

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Picton	Port Hope	Prescott	Richmond	Russell
Population	3,217	4,626	2,952	381	P.V.
ASSETS	$ c.	$ c.	$ c.	$ c.	$ c.
Lands and buildings	7,182.49	4,050.00	2,761.54	....	....
Substation equipment	2,004.66	....	....	....	....
Distribution system—overhead	39,652.20	47,651.69	38,915.28	6,127.37	7,735.81
Distribution system—underground	....	....	....	....	....
Line transformers	12,624.33	11,598.21	13,303.50	769.40	1,382.48
Meters	16,740.47	19,384.64	18,431.61	1,136.31	1,458.78
Street light equipment, regular	4,131.66	2,613.82	2,006.66	173.98	499.49
Street light equipment, ornamental	....	....	....	....	....
Miscellaneous construction expense	2,621.36	828.28	1,089.63	612.67	1,199.88
Steam or hydraulic plant	....	....	....	....	....
Old plant	3,105.28	....	11,808.35	....	....
Other plants not distributed	....	....	....	....	....
Total plant	88,062.45	86,126.64	88,316.57	8,819.73	12,276.44
Bank and cash balance	50.00	1,184.05	1,031.66	323.76	1,680.80
Securities and investments	14,000.00	....	3,000.00	....	....
Accounts receivable	5,104.68	3,014.20	1,701.75	....	976.63
Inventories	3,842.99	1,060.76	....	....	....
Sinking fund on local debentures	....	....	....	....	....
Equity in H-E.P.C. systems	20,429.65	17,960.58	25,550.45	894.27	2,863.57
Other assets	997.29	....	106.00	....	....
Total assets	132,487.06	109,346.23	119,706.43	10,037.76	17,797.44
Deficit	....	1,046.56	....	....	....
Total	132,487.06	110,392.79	119,706.43	10,037.76	17,797.44
LIABILITIES					
Debenture balance	....	23,863.83	....	5,504.02	7,211.90
Accounts payable	3,279.09	4,969.50	908.69	104.27	251.23
Bank overdraft	1,562.86	....	....	....	....
Other liabilities	978.00	3,110.77	204.51	25.50	....
Total liabilities	5,819.95	31,944.10	1,113.20	5,633.79	7,463.13
RESERVES					
For equity in H-E.P.C. systems	20,429.65	17,960.58	25,550.45	894.27	2,863.57
For depreciation	11,773.85	5,351.94	30,397.84	850.87	1,493.98
Other reserves	1,458.68	....	....	....	....
Total reserves	33,662.18	23,312.52	55,948.29	1,745.14	4,357.55
SURPLUS					
Debentures paid	5,730.32	55,136.17	23,979.34	995.98	2,788.10
Local sinking fund	....	....	....	....	....
Operating surplus	87,274.61	....	38,665.60	1,662.85	3,188.66
Total surplus	93,004.93	55,136.17	62,644.94	2,658.83	5,976.76
Total liabilities, reserves and surplus	132,487.06	110,392.79	119,706.43	10,037.76	17,797.44
Percentage of net debt to total assets	5.1	34.9	1.2	61.6	50.0

"A"—Continued

Hydro Municipalities as at December 31, 1933

Smiths Falls	Stirling	Trenton	Tweed	Warkworth	Wellington	Westport
7,501	865	6,331	1,247	P.V.	900	733
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
19,928.85	8,410.00	5,114.41	....	....	200.00	....
4,745.66	7,042.12	23,080.03	....	....	499.80	....
86,143.93	5,007.22	87,820.66	10,186.86	5,494.98	14,660.44	7,155.76
....	....	....	....	....	....	....
24,946.41	3,681.12	20,622.75	3,002.41	684.66	3,703.50	1,001.23
32,399.24	4,856.49	25,913.81	4,777.47	1,510.80	5,168.68	1,353.44
9,295.13	1,054.48	13,556.84	1,035.28	309.88	1,131.40	526.70
....	....	....	....	....	....	....
6,631.95	1,097.22	3,141.03	345.31	610.69	774.55	1,335.26
38,001.49	....	....	....	....	....	....
21,513.48	....	....	....	3,618.02	2,477.92	1,713.00
....	....	....	....	....	....	....
243,606.14	31,148.65	179,249.53	19,347.33	12,229.03	28,616.29	13,085.39
5,131.37	5,231.59	11,769.63	1,450.81	416.85	10.00	....
42,000.00	4,762.73	....	....	2,500.00	5,000.00	3,000.00
4,014.82	1,058.50	7,688.95	570.00	321.22	560.52	653.28
721.28	1,090.28	6,300.75	1,197.71	....	....	....
....	....	....	....	....	....	....
52,428.70	3,026.08	15,465.69	2,472.03	1,484.82	3,949.61	949.46
....	50.00	....	....	....	....	....
347,902.31	46,367.83	220,474.55	25,037.88	16,951.92	38,136.42	17,688.13
....	....	....	....	....	....	....
347,902.31	46,367.83	220,474.55	25,037.88	16,951.92	38,136.42	17,688.13
69,513.40	....	154,510.02	13,061.29	9,401.11	11,068.35	14,115.96
....	1.62	....	597.09	....	739.08	....
....	....	....	....	....	1,352.82	58.60
33	24.00	2,638.89	214.69	....	2.25	....
69,513.73	25.62	157,148.91	13,873.07	9,401.11	13,162.50	14,174.56
52,428.70	3,026.08	15,465.69	2,472.03	1,484.82	3,949.61	949.46
62,565.37	8,672.11	6,748.00	1,956.13	1,201.32	5,482.78	244.56
250.00	....	661.84	....	....	....	....
115,244.07	11,698.19	22,875.53	4,428.16	2,686.14	9,432.39	1,194.02
128,111.60	10,000.00	10,489.98	5,938.71	1,598.89	5,931.65	884.04
....	....	....	....	....	....	....
35,032.91	24,644.02	29,960.13	797.94	3,265.78	9,609.88	1,435.51
163,144.51	34,644.02	40,450.11	6,736.65	4,864.67	15,541.53	2,319.55
347,902.31	46,367.83	220,474.55	25,037.88	16,951.92	38,136.42	17,688.13
23.5	.06	76.7	61.5	60.8	38.5	85.2

STATEMENT

Balance Sheets of Electrical Departments of

EASTERN ONTARIO SYSTEM—Concluded

Municipality	Whitby	Williamsburg	Winchester	EASTERN ONTARIO SYSTEM SUMMARY
Population	5,294	P.V.	963	
ASSETS	$ c.	$ c.	$ c.	$ c.
Lands and buildings	6,394.26		299.85	819,667.51
Substation equipment	34,200.41			931,784.52
Distribution system—overhead	44,799.06	2,510.58	9,529.85	2,453,623.17
Distribution system—underground				322,301.15
Line transformers	10,993.72	1,749.87	2,436.78	813,528.08
Meters	14,537.89	1,926.37	4,904.37	1,022,036.39
Street light equipment, regular	4,567.02	152.11	719.87	396,512.94
Street light equipment, ornamental				
Miscellaneous construction expense	5,815.00	50.85	616.57	234,934.74
Steam or hydraulic plant				92,962.52
Old plant	1,340.13		1,100.00	154,162.80
Other plants not distributed				
Total plant	122,647.49	6,389.78	19,607.29	7,241,513.82
Bank and cash balance	458.47	1,277.70	1,013.44	198,560.93
Securities and investments		4,500.00	7,000.00	609,077.11
Accounts receivable	4,452.64	1,620.36	727.44	329,385.52
Inventories	141.87			97,440.69
Sinking fund on local debentures				940,616.80
Equity in H-E.P.C. systems	20,245.70	2,473.15	10,830.56	923,102.87
Other assets				2,795.70
Total assets	147,946.17	16,260.99	39,178.73	10,342,493.44
Deficit				7,632.05
Total	147,946.17	16,260.99	39,178.73	10,350,125.49
LIABILITIES				
Debenture balance	36,673.08	210.01	6,101.67	2,874,081.77
Accounts payable	45.20	604.59	96.72	200,877.92
Bank overdraft				28,353.41
Other liabilities	768.97	477.65	5.00	44,409.50
Total liabilities	37,487.25	1,292.25	6,203.39	3,147,722.60
RESERVES				
For equity in H-E.P.C. systems	20,245.70	2,473.15	10,830.56	923,102.87
For depreciation	16,342.61	1,788.02	6,712.24	1,601,734.88
Other reserves				367,716.89
Total reserves	36,588.31	4,261.17	17,542.80	2,892,554.64
SURPLUS				
Debentures paid	39,939.42	2,539.99	4,548.33	1,259,862.86
Local sinking fund				940,616.80
Operating surplus	33,931.19	8,167.58	10,884.21	2,109,368.59
Total surplus	73,870.61	10,707.57	15,432.54	4,309,848.25
Total liabilities, reserves and surplus	147,946.17	16,260.99	39,178.73	10,350,125.49
Percentage of net debt to total assets	29.3	9.4	21.8	26.0

"A"—Concluded

Hydro Municipalities as at December 31, 1933

THUNDER BAY
SYSTEM

Fort William 25,188	Nipigon	Port Arthur 19,749	THUNDER BAY SYSTEM SUMMARY	ALL SYSTEMS GRAND SUMMARY
$ c.	$ c.	$ c.	$ c.	$ c.
48,927.62	215.03	382,856.81	431,999.46	10,186,471.28
123,548.71	....	240,367.20	363,915.91	22,306,800.94
140,613.54	13,194.42	443,500.81	597,308.77	21,152,681.20
....	....	....	....	5,945,225.61
62,413.22	2,566.91	67,012.85	131,992.98	9,478,605.14
61,540.24	2,344.61	90,004.85	153,889.70	8,514,165.03
29,781.46	606.24	77,096.02	107,483.72	2,381,599.40
....	....	....	....	1,458,443.68
6,038.64	93.53	32,543.86	38,676.03	4,040,859.74
....	....	348,777.37	348,777.37	502,978.62
293,762.46	....	....	293,762.46	5,016,755.92
....	....	....	....	200,000.00
766,625.89	19,020.74	1,682,159.77	2,467,806.40	91,184,586.56
1,473.68	2,691.86	70,484.76	74,650.30	1,696,489.24
6,000.00	....	594,994.87	600,994.87	2,163,785.20
28,951.61	761.01	88,750.99	118,463.61	3,746,910.92
2,483.45	....	21,592.86	24,076.31	1,226,043.30
177,905.05	....	240,087.76	417,992.81	9,386,176.58
239,785.83	1,439.22	821,761.42	1,062,986.47	26,045,679.00
....	....	1,088.37	1,088.37	253,581.84
1,223,225.51	23,912.83	3,520,920.80	4,768,059.14	135,703,252.64
....	....	....	....	75,416.85
1,223,225.51	23,912.83	3,520,920.80	4,768,059.14	135,778,669.49
415,500.00	6,876.12	361,165.28	783,541.40	42,606,145.29
25,719.16	803.55	143,310.57	169,833.28	3,320,485.45
....	....	....	....	206,398.00
10,332.83	....	....	10,332.83	3,787,725.14
451,551.99	7,679.67	504,475.85	963,707.51	49,920,753.88
239,785.83	1,439.22	821,761.42	1,062,986.47	26,045,679.00
69,227.30	2,978.00	397,387.59	469,592.89	16,075,959.28
11,402.34	....	76,441.73	87,844.07	2,048,081.84
320,415.47	4,417.22	1,295,590.74	1,620,423.43	44,169,720.12
252,150.00	3,123.88	280,934.72	536,208.60	17,651,367.71
177,905.05	....	240,087.76	417,992.81	9,386,176.58
21,203.00	8,692.06	1,199,831.73	1,229,726.79	14,650,651.20
451,258.05	11,815.94	1,720,854.21	2,183,928.20	41,688,195.49
1,223,225.51	23,912.83	3,520,920.80	4,768,059.14	135,778,669.49
34.0	34.2	18.7	14.7	39.5

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM

Municipality Population	Acton 1,895	Agincourt P.V.	Ailsa Craig 464	Alvinston 690	Amherstburg 3,086
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	9,980.21	5,107.67	2,631.21	3,991.86	19,006.20
Commercial light service	3,956.25	1,136.42	1,469.89	2,354.46	6,657.90
Commercial power service	16,484.40	1,289.18	1,020.69	174.71	5,375.25
Municipal power	663.43	....	....	265.85	....
Street lighting	1,824.00	750.04	620.50	1,854.00	2,270.22
Merchandise	....	....	....	....	....
Miscellaneous	329.11	89.61	302.49	96.30	675.97
Total earnings	33,237.40	8,372.92	6,044.78	8,737.18	33,985.54
EXPENSES					
Power purchased	26,866.21	5,342.11	4,525.23	6,549.36	21,591.10
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	2,361.66	423.59	254.61	42.24	2,350.28
Line transformer maintenance	160.25	....	....	....	20.64
Meter maintenance	217.85	....	169.51	....	386.09
Consumers' premises expenses	....	....	....	....	34.04
Street lighting, operation and maintenance	349.80	145.87	97.40	85.37	529.99
Promotion of business	....	....	....	....	....
Billing and collecting	690.60	....	181.24	251.00	2,303.87
General office, salaries and expenses	444.97	322.40	133.09	215.88	981.51
Undistributed expenses	233.58	....	34.79	26.75	161.84
Truck operation and maintenance	140.29	....	....	....	286.08
Interest	32.60	260.06	....	742.73	1,456.46
Sinking fund and principal payments on debentures	649.58	566.40	....	1,048.37	1,304.96
Depreciation	1,324.00	354.00	451.00	597.00	1,846.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	33,471.39	7,414.43	5,846.87	9,558.70	33,253.86
Net surplus	....	958.49	197.91	....	732.68
Net loss	233.99	....	....	821.52	....
NUMBER OF CONSUMERS					
Domestic service	482	143	130	151	586
Commercial light service	89	23	38	52	124
Power service	16	3	2	2	15
Total	587	169	170	205	725

"B"

Hydro Municipalities for Year Ended December 31, 1933

Ancaster Twp.	Arkona 416	Aylmer 1,989	Ayr 768	Baden P.V.	Beachville P.V.	Belle River 746	Blenheim 1,690
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
8,977.54	2,643.74	10,877.65	5,126.69	3,596.36	3,018.55	3,411.84	8,520.56
1,788.77	1,649.92	6,877.10	1,852.48	1,487.40	662.16	1,556.07	6,206.73
550.38	833.62	3,056.22	161.85	4,821.19	9,134.26	432.15	3,506.91
292.14	....	901.31	....	....	....	989.07	1,533.93
1,135.00	960.00	2,320.00	1,028.00	650.00	517.00	693.00	2,500.00
....	....	....	....	....	....	....	....
....	38	1,113.27	15.35	86.31	303.60	244.79	162.66
12,743.83	6,087.66	25,145.55	8,184.37	10,641.26	13,635.57	7,326.92	22,430.79
7,961.94	4,013.87	15,973.03	5,664.40	8,521.58	14,486.13	4,459.87	13,304.73
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
1,136.55	131.54	2,584.85	535.05	260.99	55.64	457.55	798.77
68.32	....	28.20	....	....	38.54	35.70	135.09
247.95	....	211.86	17.64	....	102.02	34.80	818.80
....	....	....	....	....	....	....	....
161.70	74.45	275.28	78.82	174.44	104.34	122.20	383.81
....	....	....	....	....	....	....	18.44
....	206.25	663.29	430.86	427.32	271.71	295.86	934.41
1,540.36	88.70	1,218.10	57.60	54.61	171.57	317.06	1,127.42
....	....	144.64	27.00	23.20	25.68	26.38	378.57
....	....	....	....	....	....	....	....
544.61	626.95	1,228.83	365.81	115.60	141.30	350.65	592.31
291.10	563.21	1,280.35	349.60	209.66	223.30	390.39	476.84
844.00	322.00	1,408.00	535.00	370.00	630.00	635.00	1,383.00
....	....	....	....	....	....	....	....
12,796.53	6,026.97	25,016.43	8,061.78	10,157.40	16,250.23	7,125.46	20,352.19
....	60.69	129.12	122.59	483.86	....	201.46	2,078.60
52.70	....	....	....	....	2,614.66	....	....
268	96	633	208	133	133	207	490
37	36	133	45	35	20	46	126
5	....	13	3	3	4	4	10
310	132	779	256	171	157	257	626

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Blyth	Bolton	Bothwell	Brampton	Brantford
Population	602	593	646	5,413	30,724
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	3,893.93	3,426.17	2,710.60	36,818.92	184,129.33
Commercial light service	1,821.29	967.73	1,259.10	16,148.10	62,992.72
Commercial power service	1,184.15	2,327.48	618.20	15,162.91	163,495.28
Municipal power			145.94	2,458.88	21,488.11
Street lighting	1,300.00	1,113.99	1,293.00	5,426.50	34,414.16
Merchandise					
Miscellaneous	10.07	9.70	615.39	1,329.01	3,924.88
Total earnings	8,209.44	7,845.07	6,642.23	77,344.32	470,444.48
EXPENSES					
Power purchased	4,895.80	5,020.91	4,653.08	63,640.64	317,694.31
Substation operation				114.86	7,722.48
Substation maintenance					574.83
Distribution system, operation and maintenance	154.62	288.20	104.55	2,916.26	14,197.85
Line transformer maintenance				95.95	219.06
Meter maintenance			99.95	648.71	4,833.18
Consumers' premises expenses		65			414.50
Street lighting, operation and maintenance	81.90	242.64	189.10	779.03	4,528.75
Promotion of business					769.78
Billing and collecting			240.68	1,614.35	9,293.44
General office, salaries and expenses	278.29	419.50	252.10	973.30	9,594.42
Undistributed expenses			15.00	775.93	3,935.12
Truck operation and maintenance				240.73	2,363.12
Interest	544.24	332.87	202.30	731.77	27,940.74
Sinking fund and principal payments on debentures	986.82	536.14	170.30	3,056.52	50,548.93
Depreciation	433.00	544.00	531.00	4,267.00	22,601.00
Other reserves				91.26	2,000.00
Total operating costs and fixed charges	7,374.67	7,384.91	6,458.06	79,946.31	479,231.51
Net surplus	834.77	460.16	184.17		
Net loss				2,601.99	8,787.03
NUMBER OF CONSUMERS					
Domestic service	158	162	169	1,369	7,384
Commercial light service	55	43	48	232	1,124
Power service	5	9	5	54	229
Total	218	214	222	1,655	8,737

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Brantford Twp.	Bridgeport P.V.	Brigden P.V.	Brussels 770	Burford P.V.	Burgessville P.V.	Caledonia 1,400	Campbellville P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
18,445.68	3,714.20	2,306.85	5,318.84	4,240.32	1,254.32	5,314.46	1,317.96
3,947.57	1,049.03	1,754.03	2,803.16	944.20	581.80	3,877.51	488.67
3,972.99	259.09	1,026.74	749.06	1,532.87	286.05	2,303.00	...
...	...	...	...	...	...	...	...
4,250.50	580.00	745.00	1,284.00	737.04	312.00	1,546.98	456.00
...	...	...	...	...	...	...	...
705.23	...	101.35	94.27	235.01	...	102.76	57.72
31,321.97	5,602.32	5,933.97	10,249.33	7,689.44	2,434.17	13,144.71	2,320.35
17,753.55	3,643.91	4,236.29	5,919.99	4,794.58	2,220.69	8,346.97	1,570.04
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
1,453.89	45.35	472.47	323.02	96.29	143.76	1,391.15	67.92
125.31	20.17	...	...	...	...	21.50	...
366.43	156.17	5.51	...	81.19	...	79.46	...
...	...	...	...	...	...	...	...
951.59	45.60	63.85	122.16	62.03	29.07	280.15	39.17
105.55	...	...	...	...	...	...	...
1,924.54	319.01	221.57	...	408.85	112.13	476.62	...
1,625.98	71.22	104.21	640.34	125.41	5.63	210.57	108.63
58.43	21.50	25.00	...	22.66	17.25	84.60	...
...	...	...	...	...	...	...	...
1,581.82	611.05	66.17	782.14	37.30	62.72	121.25	231.03
3,211.39	...	270.19	975.14	363.91	254.20	240.07	257.20
2,474.00	499.00	345.00	563.00	463.00	200.00	770.00	112.00
...	...	...	...	...	85.41	...	...
31,632.48	5,432.98	5,810.26	9,325.79	6,455.22	3,130.86	12,022.74	2,385.99
...	169.34	123.71	923.54	1,234.22	...	1,121.97	...
310.51	...	...	...	...	696.69	...	65.64
751	110	108	221	191	54	326	40
45	19	43	66	32	21	86	8
5	4	5	2	4	2	8	...
801	133	156	289	227	77	420	48

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Cayuga	Chatham	Chippawa	Clifford	Clinton
Population	705	16,223	1,073	454	1,842
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	3,271.60	79,868.02	6,135.21	2,341.49	11,717.71
Commercial light service	2,867.78	67,913.97	1,079.44	1,581.17	5,931.47
Commercial power service	1,404.86	46,853.22	318.50	119.86	4,669.21
Municipal power	....	4,799.33	744.38	....	1,128.13
Street lighting	1,431.00	19,009.95	1,096.00	862.17	1,987.02
Merchandise	12.92	329.77	....	....	....
Miscellaneous	....	1,133.54	12.15	9.90	1,175.22
Total earnings	8,988.16	219,907.80	9,385.68	4,914.59	26,608.76
EXPENSES					
Power purchased	5,298.58	119,898.76	5,133.34	3,813.03	16,906.79
Substation operation	....	5,988.79	....	....	100.35
Substation maintenance	....	2,324.89	....	....	....
Distribution system, operation and maintenance	653.53	4,881.02	1,068.72	27.93	602.11
Line transformer maintenance	1.30	1,416.01	....	....	88.72
Meter maintenance	71.85	4,852.10	13.50	9.95	139.83
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	46.91	3,536.35	326.21	31.99	71.08
Promotion of business	....	2,652.53	2.25	....	....
Billing and collecting	559.34	10,330.56	441.73	297.02	885.28
General office, salaries and expenses	166.10	13,592.03	498.39	84.57	1,794.78
Undistributed expenses	60.17	3,752.63	96.69	24.28	418.72
Truck operation and maintenance	....	2,093.69	....	....	115.01
Interest	782.16	14,583.71	463.25	380.95	2,437.40
Sinking fund and principal payments on debentures	880.27	14,405.79	747.52	169.49	1,305.66
Depreciation	535.00	15,250.29	889.00	281.00	1,860.00
Other reserves	....	251.92	....	....	....
Total operating costs and fixed charges	9,055.21	219,811.07	9,680.60	5,120.21	26,725.73
Net surplus	....	96.73	....	....	....
Net loss	67.05	....	294.92	205.62	116.97
NUMBER OF CONSUMERS					
Domestic service	121	3,730	331	105	504
Commercial light service	54	716	31	40	129
Power service	4	98	6	1	15
Total	179	4,544	368	146	648

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Comber P.V.	Cottam P.V.	Courtright 348	Dashwood P.V.	Delaware P.V.	Dorchester P.V.	Drayton 559	Dresden 1,488
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,354.18	2,545.36	1,604.43	1,532.16	1,331.90	2,483.10	3,093.75	6,212.10
2,292.75	1,298.35	941.55	879.68	601.43	818.97	1,887.84	5,002.21
3,049.83	389.53	98.47	576.61	....	269.73	1,017.47	4,462.18
....	....	792.82	....	....	....	....	445.09
512.00	457.50	774.00	451.00	264.00	590.00	750.00	1,758.36
....	....	....	....	....	....	....	150.42
76.09	84.24	31.18	112.02	158.18	118.77	230.00	200.62
8,284.85	4,774.98	4,242.45	3,551.47	2,355.51	4,280.57	6,979.06	18,230.98
6,315.79	2,582.55	3,137.10	2,543.64	1,439.07	3,257.94	5,684.26	12,059.91
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
99.98	113.58	15.54	135.93	27.10	24.94	202.16	1,761.19
....	98.55	....	....	....	79.35	....	....
20.35	9.30	....	60	8.11	67.51	....	123.57
....	....	....	....	....	....	....	....
68.88	106.33	57.75	30.23	25.72	28.88	110.98	237.30
....	....	....	....	....	....	....	....
262.24	....	98.45	133.40	....	130.58	....	616.53
237.23	427.24	66.09	3.29	132.56	7.54	252.33	558.01
37.98	....	15.75	20.75	12.50	11.25	28.09	76.85
....	....	....	....	....	....	....	....
119.65	397.23	248.36	128.10	115.83	134.24	403.00	70.88
472.48	355.91	593.46	111.56	144.91	148.31	287.98	691.43
434.00	338.00	215.00	204.00	145.00	335.00	516.00	841.00
....	....	....	....	....	....	....	225.00
8,068.58	4,428.69	4,447.50	3,311.50	2,050.80	4,225.54	7,484.80	17,261.67
216.27	346.29	....	239.97	304.71	55.03	....	969.31
....	....	205.05	....	....	....	505.74	....
98	105	58	66	48	124	147	372
49	28	23	27	18	26	58	122
3	1	2	1	....	1	4	10
150	134	83	94	66	151	209	504

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Drumbo	Dublin	Dundas	Dunnville	Dutton
Population	P.V.	P.V.	5,138	3,615	761
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	2,130.97	1,334.24	20,753.93	13,505.31	3,545.07
Commercial light service	1,039.19	887.79	10,660.40	11,480.33	2,534.26
Commercial power service	753.76	451.79	16,577.44	11,461.99	3,552.14
Municipal power	....	....	594.35	2,378.46	....
Street lighting	522.50	750.00	5,388.00	3,941.88	999.37
Merchandise	....	....	....	....	....
Miscellaneous	77.89	....	286.71	222.89	270.99
Total earnings	4,524.31	3,423.82	54,260.83	42,990.86	10,901.83
EXPENSES					
Power purchased	2,635.74	2,232.76	34,814.68	23,174.74	7,784.84
Substation operation	....	....	86.94	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	208.09	60.93	5,250.20	1,718.56	362.81
Line transformer maintenance	....	....	37.12	20.93	183.13
Meter maintenance	107.72	....	828.99	137.69	116.98
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	65.01	80.11	461.63	466.57	223.64
Promotion of business	....	....	....	....	....
Billing and collecting	162.01	150.06	1,112.40	....	331.72
General office, salaries and expenses	101.63	21.92	1,682.98	2,479.32	138.65
Undistributed expenses	11.25	15.75	744.77	167.93	26.79
Truck operation and maintenance	....	....	683.22	177.65	....
Interest	129.73	148.19	1,465.43	3,022.70	346.67
Sinking fund and principal payments on debentures	163.00	441.49	2,082.65	2,487.10	340.60
Depreciation	270.00	271.00	4,028.00	3,052.00	548.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	3,854.18	3,422.21	53,279.01	36,905.19	10,403.83
Net surplus	670.13	1.61	981.82	6,085.67	498.00
Net loss	....	....	....	....	....
NUMBER OF CONSUMERS					
Domestic service	82	40	1,219	766	204
Commercial light service	25	22	193	199	71
Power service	1	3	40	34	7
Total	108	65	1,452	999	282

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

East Windsor 14,333	East York Twp.	Elmira 2,642	Elora 1,144	Embro 455	Erieau 264	Erie Beach 23	Essex 1,888
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
74,849.48	175,276.26	15,672.17	7,125.01	2,758.79	3,652.19	1,518.16	7,502.00
16,038.88	23,952.07	5,681.70	3,524.48	1,586.05	1,058.34	258.57	4,666.24
30,604.10	22,408.69	3,599.66	2,907.45	1,530.55	879.43	...	4,383.42
...	5,117.31	827.29	...	...	...	...	1,669.44
8,419.92	19,637.45	1,834.00	1,674.00	672.00	360.00	...	3,134.99
...	...	...	96.94	...	...	...	...
...	142.38	442.39	397.09	61.67	...	...	502.16
129,912.38	246,534.16	28,057.21	15,724.97	6,609.06	5,949.96	1,776.73	21,858.25
73,289.08	158,535.98	20,696.12	10,335.79	4,285.42	3,747.85	877.83	11,571.99
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
6,497.35	7,781.53	1,768.00	2,432.24	79.77	106.41	175.27	232.78
317.06	2,102.43	...	17.56	23.14	55.35	...	49.42
2,799.55	3,006.62	124.63	68.16	4.68	89.42	11.34	64.66
2,459.49	1,147.19	...	...	...	...	...	...
2,718.77	2,074.15	105.99	148.71	204.55	54.82	...	282.06
2,480.64	...	...	...	...	...	...	...
10,294.90	10,636.12	635.45	691.55	343.12	319.65	160.38	778.48
4,553.33	9,862.66	716.84	454.05	141.51	118.19	8.16	1,927.41
3,029.19	3,817.34	412.43	364.32	17.59	61.32	7.50	159.90
3,062.93	3,770.91	158.85	105.04	...	...	...	213.97
3,581.12	15,151.56	1,457.16	237.19	228.61	313.92	161.51	1,071.96
6,708.47	14,214.38	1,573.21	732.10	434.85	324.96	127.23	476.71
7,767.00	12,772.00	1,978.00	1,070.00	477.00	325.00	76.00	1,638.00
...	221.63	...	...	...	...	...	...
129,558.88	245,094.50	29,626.68	16,656.71	6,240.24	5,516.89	1,605.22	18,467.34
353.50	1,439.66	...	...	368.82	433.07	171.51	3,390.91
...	...	1,569.47	931.74	...	...	...	...
2,971	8,744	505	307	99	138	63	413
266	367	115	73	45	12	3	112
33	35	22	2	1	2	...	17
3,270	9,146	642	382	145	152	66	542

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Etobicoke Twp.	Exeter	Fergus	Fonthill	Forest
Population		1,622	2,559	862	1,465
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	93,889.08	11,406.32	15,720.00	4,877.99	10,865.60
Commercial light service	16,220.69	4,896.67	6,278.16	974.73	5,208.04
Commercial power service	11,212.72	4,064.90	7,615.45	238.17	4,209.01
Municipal power	4,478.63	542.21	799.21	358.68	1,062.18
Street lighting	13,415.13	1,998.94	2,915.04	1,065.00	2,321.00
Merchandise	....	....	102.64	....	49.28
Miscellaneous	394.27	570.76	....	8.59	652.87
Total earnings	139,610.52	23,479.80	33,430.50	7,523.16	24,367.98
EXPENSES					
Power purchased	86,749.14	15,467.63	23,979.90	3,816.05	14,351.36
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	8,161.68	566.83	1,216.19	570.53	703.43
Line transformer maintenance	679.56	34.20	72.50	....	....
Meter maintenance	1,199.31	326.61	396.64	....	102.81
Consumers' premises expenses	....	....	12.00	....	....
Street lighting, operation and maintenance	1,515.61	264.73	290.68	42.35	367.88
Promotion of business	1,045.34	77.96	....	30	....
Billing and collecting	4,436.42	423.42	630.82	....	497.48
General office, salaries and expenses	2,655.76	2,174.67	768.22	486.84	2,214.48
Undistributed expenses	2,535.06	109.12	207.43	....	196.97
Truck operation and maintenance	1,645.09	101.52	281.63	....	284.37
Interest	11,330.30	458.58	1,135.77	1,019.53	645.65
Sinking fund and principal payments on debentures	11,534.81	960.47	2,836.71	1,020.98	1,056.82
Depreciation	10,411.00	1,334.00	1,510.00	472.00	1,389.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	143,899.08	22,299.74	33,338.49	7,428.58	21,810.25
Net surplus	....	1,180.06	92.01	94.58	2,557.73
Net loss	4,288.56	....	....	....	....
NUMBER OF CONSUMERS					
Domestic service	3,114	452	618	194	458
Commercial light service	212	121	116	33	139
Power service	22	9	13	5	24
Total	3,348	582	747	232	621

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Galt	Georgetown	Glencoe	Goderich	Granton	Guelph	Hagersville	Hamilton
14,036	2,187	800	4,366	P.V.	20,754	1,370	154,701
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
103,490.42	14,067.98	5,470.81	29,614.29	1,692.71	103,446.51	4,816.57	896,836.05
41,981.08	6,022.90	3,152.02	13,509.59	1,028.21	49,053.55	4,468.97	346,737.41
72,488.00	22,190.68	1,541.71	10,640.48	830.74	95,347.14	11,477.85	1,453,362.29
4,441.00	506.49	1,432.99	3,429.33	....	11,864.16	....	54,487.69
21,384.00	2,125.83	1,934.00	3,791.50	370.00	18,499.79	1,732.00	123,449.34
....	....	....	....	....	755.77	39.69	....
3,295.62	737.63	41.24	187.81	175.66	1,488.05	859.54	22,459.92
247,080.12	45,651.51	13,572.77	61,173.00	4,097.32	280,454.97	23,394.62	2,897,332.70
157,535.71	35,878.07	9,215.72	41,623.21	3,110.71	210,624.16	19,561.72	2,048,010.95
4,287.58	....	....	1,750.09	....	3,044.97	....	61,889.21
75.93	....	....	....	....	....	....	8,450.50
2,914.71	1,053.03	582.40	2,215.79	121.42	9,751.83	2,655.22	36,860.80
67.52	37.09	....	171.64	....	705.37	83.11	9,473.80
2,876.05	344.98	....	543.81	....	2,821.57	183.71	17,589.68
....	....	....	....	....	210.69	....	14,698.25
3,153.09	274.80	222.10	623.28	18.52	6,996.40	128.14	13,053.04
4,358.94	....	....	....	....	219.75	....	17,737.88
3,798.16	1,638.32	532.69	1,826.10	159.75	6,000.48	540.44	50,189.04
3,797.30	782.25	333.84	2,134.74	85.85	8,653.05	660.12	42,784.91
4,270.43	168.01	46.49	218.67	15.98	4,432.87	146.71	43,371.88
733.80	543.13	126.17	203.68	....	1,323.37	544.40	....
16,351.29	691.85	539.24	2,714.49	143.70	2,774.40	177.04	250,855.06
18,563.27	765.41	981.45	2,231.60	119.18	5,656.52	373.76	292,021.39
22,878.00	1,982.00	906.00	5,189.00	221.00	12,845.00	1,068.00	127,175.00
3,000.00	....	....	....	....	....	....	....
248,661.78	44,158.94	13,486.10	61,446.10	3,996.11	276,060.43	26,122.37	3,034,161.39
....	1,492.57	86.67	....	101.21	4,394.54	....	....
1,581.66	....	....	273.10	....	....	2,727.75	136,828.69
3,584	668	218	1,155	80	5,008	316	36,990
484	132	80	237	33	760	107	5,068
118	27	6	20	2	130	17	1,265
4,186	827	304	1,412	115	5,898	400	43,323

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Harriston	Harrow	Hensall	Hespeler	Highgate
Population	1,293	926	719	2,784	338
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	7,829.33	7,875.06	4,180.44	18,265.53	1,783.58
Commercial light service	4,842.28	3,499.99	1,800.34	4,916.32	976.17
Commercial power service	5,091.22	3,558.36	2,518.55	35,121.46	1,081.68
Municipal power	477.06	....	37.56	1,103.95	39.01
Street light	1,467.00	1,249.44	996.00	2,965.00	568.00
Merchandise	....	....	....	....	....
Miscellaneous	....	50.19	244.24	496.57	170.08
Total earnings	19,706.89	16,233.04	9,777.13	62,868.83	4,618.52
EXPENSES					
Power purchased	13,089.24	12,347.82	6,992.59	49,949.40	2,972.71
Substation operation	....	....	....	310.84	....
Substation maintenance	....	....	....	11.00	....
Distribution system, operation and maintenance	1,182.25	150.05	332.27	2,384.26	37.77
Line transformer maintenance	....	16.94	....	42.72	....
Meter maintenance	145.25	125.71	....	169.36	9.40
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	267.68	273.32	114.10	602.72	97.52
Promotion of business	....	53.88	....	....	....
Billing and collecting	825.74	632.60	348.50	661.59	348.63
General office, salaries and expenses	118.11	437.12	415.07	1,257.96	133.12
Undistributed expenses	93.03	28.25	29.35	482.34	15.75
Truck operation and maintenance	165.77	....	....	289.16	....
Interest	577.59	526.23	438.95	2,000.75	177.84
Sinking fund and principal payments on debentures	721.66	519.93	423.48	2,735.69	165.85
Depreciation	953.00	682.00	625.00	2,492.00	333.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	18,139.32	15,793.85	9,719.31	63,389.79	4,291.59
Net surplus	1,567.57	439.19	57.82	....	326.93
Net loss	....	....	....	520.96	....
NUMBER OF CONSUMERS					
Domestic service	338	246	180	700	96
Commercial light service	105	77	52	108	37
Power service	12	4	14	28	6
Total	455	327	246	836	139

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Humber-stone 2,265	Ingersoll 5,296	Jarvis 504	Kingsville 2,286	Kitchener 31,443	Lambeth P.V.	La Salle 600	Leaming-ton 5,025
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
8,447.65	31,581.32	2,396.78	14,073.03	193,447.44	3,387.28	6,313.91	25,306.03
2,998.76	14,380.17	1,868.82	6,544.89	98,357.80	1,511.67	1,666.45	13,751.06
3,912.05	23,673.54	4,220.35	3,366.09	197,453.09	....	2,254.05	10,924.25
....	2,039.45	....	1,207.24	20,660.15	576.57	....	5,324.06
1,367.00	4,851.48	840.00	3,220.00	32,415.74	459.00	577.50	5,456.34
....	10.98	....	....	....	....	....	....
464.80	542.47	97.18	1,124.79	864.43	56.28	143.22	875.61
17,190.26	77,079.41	9,423.13	29,536.04	543,198.65	5,990.80	10,955.13	61,637.35
9,429.08	60,705.42	6,751.50	16,082.70	403,835.00	4,033.14	6,926.92	37,851.83
....	717.50	....	....	8,771.81	....	....	....
....	....	....	....	797.95	....	....	....
814.30	2,674.64	171.40	1,008.75	14,680.84	51.32	426.32	2,637.19
2.40	562.49	....	99.92	161.81	3.82	....	47.21
26.80	148.22	20.50	249.01	4,404.47	127.38	....	603.14
....	189.53	....	....	1,378.55	....	....	62.43
122.38	510.23	45.10	658.69	6,701.85	47.50	90.00	939.31
....	58.10	....	....	663.38	....	....	....
....	1,386.15	505.95	1,335.45	13,044.80	....	571.10	2,306.04
839.28	4,635.02	36.73	1,032.46	13,430.50	217.33	503.40	2,965.10
....	442.72	23.72	380.50	5,575.44	15.00	74.52	719.13
113.43	411.07	....	191.77	3,851.29	....	321.89	500.34
1,230.95	3,387.13	391.07	1,758.32	11,657.75	155.74	722.91	2,105.11
1,200.00	1,677.35	487.57	675.37	24,044.92	136.24	633.57	2,079.75
1,040.00	3,335.00	386.00	1,883.00	28,993.00	326.00	795.00	3,218.00
....	....	....	....	2,564.88	....	....	....
14,818.62	80,840.57	8,819.54	25,355.94	544,558.24	5,113.47	11,065.63	56,034.58
2,371.64	....	603.59	4,180.10	....	877.33	....	5,602.77
....	3,761.16	....	....	1,359.59	....	110.50	....
500	1,265	120	706	7,117	109	198	1,324
64	234	36	174	956	28	21	255
7	44	4	14	239	2	5	26
571	1,543	160	894	8,312	139	224	1,605

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Listowel	London	London Twp.	Long Branch	Lucan
Population	2,665	73,173		3,541	590
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	17,760.49	492,592.98	10,610.79	23,463.32	4,777.67
Commercial light service	7,947.24	188,474.27	2,446.39	5,270.04	1,617.17
Commercial power service	11,468.64	316,997.15	1,537.05	779.45	370.86
Municipal power	1,504.67	49,029.36	....	994.12	....
Street lighting	3,839.10	54,028.74	832.50	3,413.27	992.70
Merchandise	....	2,894.60	....	....	....
Miscellaneous	642.62	31,413.71	413.43	108.00	316.54
Total earnings	43,162.76	1,135,430.81	15,840.16	34,028.20	8,074.94
EXPENSES					
Power purchased	31,664.62	762,305.39	11,062.35	20,475.98	4,911.08
Substation operation	59.72	16,101.15	....	....	....
Substation maintenance	....	11,647.78	....	....	....
Distribution system, operation and maintenance	2,560.37	19,767.37	287.19	3,418.08	609.43
Line transformer maintenance	244.27	3,134.48	....	56.99	....
Meter maintenance	556.56	13,465.77	246.96	229.85	....
Consumers' premises expenses	....	4,466.07	....	....	....
Street lighting, operation and maintenance	405.96	10,172.51	161.49	536.33	130.15
Promotion of business	11.54	5,969.48	7.11	11.25	....
Billing and collecting	812.58	26,778.58	600.28	2,093.32	504.63
General office, salaries and expenses	617.08	33,679.83	665.10	1,934.47	400.37
Undistributed expenses	321.31	10,257.36	22.38	869.09	40.76
Truck operation and maintenance	173.88	6,431.59	....	....	....
Interest	549.34	48,462.11	672.27	1,988.88	229.14
Sinking fund and principal payments on debentures	1,722.10	63,052.93	965.35	1,899.79	258.75
Depreciation	2,525.00	91,824.95	690.00	2,166.00	625.00
Other reserves	....	12,166.28	....	....	....
Total operating costs and fixed fixed charges	42,224.33	1,139,683.63	15,380.48	35,680.03	7,709.31
Net surplus	938.43	....	459.68	....	365.63
Net loss	....	4,252.82	....	1,651.83	....
NUMBER OF CONSUMERS					
Domestic service	726	16,367	330	899	174
Commercial light service	152	2,839	19	68	44
Power service	21	486	5	3	7
Total	899	19,692	354	970	225

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Lynden P.V.	Markham 1,073	Merlin P.V.	Merritton 2,544	Milton 1,828	Milverton 1,004	Mimico 6,454	Mitchell 1,571
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,151.80	6,880.40	2,261.27	11,558.62	11,622.25	5,672.73	54,604.89	10,478.52
713.59	2,614.73	1,704.94	2,241.79	5,463.21	2,775.02	9,519.99	4,196.91
749.82	2,772.35	1,470.08	59,639.69	11,308.00	3,544.03	3,477.41	4,080.52
....	490.25	....	....	....	549.60	7,700.76	830.22
431.80	1,356.00	688.00	3,352.00	2,019.50	999.00	8,021.89	2,088.00
....	....	....	....	....	....	....	927.11
7.53	160.67	326.39	267.85	1,740.01	87.10	121.05	190.59
4,054.54	14,274.40	6,450.68	77,059.95	32,152.97	13,627.48	83,445.99	22,791.87
3,247.16	9,272.27	3,979.24	64,931.76	20,567.45	10,295.00	53,807.49	14,560.37
....	....	....	....	244.13	....	....	102.77
....	....	....	....	....	....	....	....
64.20	947.59	89.98	3,073.20	1,660.68	329.65	7,089.10	670.34
....	....	....	....	....	....	71.31	....
11.59	....	74.49	390.07	346.18	187.22	950.83	220.80
....	2.59	....	....	....	3.57	13.00	....
43.17	194.47	57.50	864.00	218.87	85.37	1,166.74	408.91
....	....	....	....	166.00	....	....	....
160.49	....	298.80	1,029.67	935.85	537.65	1,637.61	1,040.94
60.61	778.52	301.84	1,845.88	2,107.06	313.93	2,155.82	1,463.54
20.00	....	15.00	193.05	200.38	191.66	313.27	661.46
....	169.85	....	339.22	355.63	....	626.50	118.90
155.08	92.36	505.95	1,194.75	1,532.64	172.72	5,000.91	2.25
154.20	371.51	671.76	1,503.67	....	677.11	5,353.04	....
266.00	779.00	355.00	1,996.00	2,218.30	676.00	5,235.00	2,899.00
....	....	....	....	....	675.00	....	....
4,182.50	12,608.16	6,349.56	77,361.27	30,553.17	14,144.88	83,420.62	22,149.28
....	1,666.24	101.12	....	1,599.80	....	25.37	642.59
127.96	....	....	301.32	....	517.40	....	....
81	272	104	700	456	223	1,760	429
21	66	45	60	104	71	138	99
1	11	2	11	21	7	15	24
103	349	151	771	581	301	1,913	552

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Moore-field	Mount Brydges	Newbury	New Hamburg	New Toronto
Population	P.V.	P.V.	267	1,426	7,280
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	1,068.82	2,832.07	1,266.73	10,770.96	32,307.33
Commercial light service	647.64	915.76	957.67	4,255.63	12,113.15
Commercial power service	1,161.94	917.24	760.22	4,594.44	95,773.91
Municipal power	....	....	....	....	10,926.65
Street lighting	375.00	500.00	720.00	2,258.75	8,913.96
Merchandise	....	....	....	229.14	....
Miscellaneous	54.73	211.45	24.86	173.23	....
Total earnings	3,308.13	5,376.52	3,729.48	22,282.15	160,035.00
EXPENSES					
Power purchased	2,699.72	3,548.38	2,254.82	15,516.92	135,895.07
Substation operation	....	....	....	369.04	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	21.60	176.30	98.95	319.24	4,627.57
Line transformer maintenance	....	....	....	....	337.04
Meter maintenance	....	55.93	....	497.92	636.05
Consumers' premises expenses	....	....	....	....	247.38
Street lighting, operation and maintenance	25.31	43.75	48.70	353.29	1,777.42
Promotion of business	....	....	....	29.09	....
Billing and collecting	....	173.57	....	562.06	2,703.22
General office, salaries and expenses	118.82	106.30	124.83	839.54	4,806.67
Undistributed expenses	....	21.73	15.75	116.20	1,468.24
Truck operation and maintenance	....	....	....	232.15	1,157.29
Interest	94.38	137.64	295.96	385.97	827.68
Sinking fund and principal payments on debentures	290.65	152.72	500.00	792.52	304.25
Depreciation	185.00	290.00	287.00	1,300.00	5,205.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	3,435.48	4,706.32	3,626.01	21,313.94	159,992.88
Net surplus	....	670.20	103.47	968.21	42.12
Net loss	127.35	....	....	....	....
NUMBER OF CONSUMERS					
Domestic service	63	136	62	343	1,434
Commercial light service	27	36	27	93	151
Power service	2	3	2	14	34
Total	92	175	91	450	1,619

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Niagara Falls 18,507	Niagara-on-the-Lake 1,672	North York Twp.	Norwich 1,126	Oil Springs 433	Otterville P.V.	Palmerston 1,617	Paris 4,330
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
138,423.29	14,217.28	94,813.34	8,128.33	1,636.56	2,115.40	10,859.15	22,861.22
55,590.67	3,410.85	15,325.38	3,068.33	1,168.42	1,656.94	4,888.74	8,245.31
49,627.60	852.84	27,640.58	1,595.16	7,848.65	160.65	4,666.92	12,373.70
15,238.33	1,621.21	3,927.85	634.90	....	108.10	1,900.85	1,225.00
28,392.66	2,833.31	3,675.61	2,120.00	750.00	780.51	1,738.98	5,838.90
....	277.05	....	94.35	....	....	....	....
59.69	322.31	480.97	192.95	222.67	124.91	6.32	1,798.24
287,332.24	23,534.85	145,863.73	15,834.02	11,626.30	4,946.51	24,060.96	52,342.37
181,553.04	13,429.40	81,895.54	11,067.84	7,107.19	3,596.84	17,853.90	33,767.22
10,386.43	....	....	....	....	....	....	170.46
....	....	....	....	....	....	....	....
8,858.38	2,362.97	10,471.07	1,467.21	535.44	43.30	649.80	4,756.19
168.28	....	369.63	....	....	16.04	29.15	114.61
5,442.10	69.68	1,363.61	59.66	25.67	74.92	189.60	422.15
....	....	....	....	....	....	....	96.36
3,355.89	485.67	674.97	263.59	39.47	70.56	355.74	660.87
....	....	....	....	....	....	....	....
7,215.69	....	4,434.66	412.61	373.63	252.77	656.76	1,245.42
8,844.93	1,950.20	3,648.88	309.13	349.42	75.94	764.26	1,249.33
4,940.08	....	2,610.56	178.85	82.73	19.50	99.37	303.78
3,348.62	331.58	3,298.98	176.20	....	....	115.45	352.11
20,800.73	1,220.07	20,862.62	332.92	364.39	73.13	366.42	564.23
24,472.06	949.10	15,944.89	565.34	1,128.19	329.40	863.87	696.52
23,016.00	1,519.00	11,206.00	822.00	691.00	410.00	1,213.00	4,915.00
....	....	....	....	....	....	....	186.89
302,402.23	22,317.67	156,781.41	15,655.35	10,697.13	4,962.40	23,157.32	49,501.14
....	1,217.18	....	178.67	929.17	....	903.64	2,841.23
15,069.99	....	10,917.68	....	....	15.89	....	....
4,329	464	2,802	359	75	102	389	1,060
669	82	233	77	30	43	90	180
87	10	36	7	31	4	11	27
5,085	556	3,071	443	136	149	490	1,267

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Parkhill	Petrolia	Plattsville	Point Edward	Port Colborne
Population	998	2,569	P.V.	1,211	6,006
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	4,742.41	11,576.04	2,610.72	5,693.23	27,055.82
Commercial light service	3,052.58	6,517.41	1,055.17	2,009.55	11,314.48
Commercial power service	287.57	21,684.65	532.83	17,972.48	6,914.32
Municipal power	538.80	....	....	....	6,419.45
Street lighting	1,437.00	2,652.00	442.00	1,553.66	7,825.80
Merchandise	....	238.00	....	....	....
Miscellaneous	11.25	474.65	13.18	625.73	....
Total earnings	10,069 61	43,142.75	4,653.90	27,854.65	59,529.87
EXPENSES					
Power purchased	7,747.92	27,646.63	3,065.25	22,880.12	35,390.98
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	261.19	2,497.23	62.40	397.55	1,838.03
Line transformer maintenance	....	667.76	....	15.15	337.74
Meter maintenance	170.70	298.02	....	164.10	898.09
Consumers' premises expenses	....	....	....	....	81.56
Street lighting, operation and maintenance	222.30	371.74	....	225.64	1,934.93
Promotion of business	....	....	....	....	726 10
Billing and collecting	251.15	457.21	166.85	....	1,614.19
General office, salaries and expenses	108.20	2,032.92	7.86	1,848.80	3,357.49
Undistributed expenses	24.74	246.29	15.75	80.51	287.30
Truck operation and maintenance	....	201.03	....	....	1,071.08
Interest	418.56	1,479.45	151.00	536.43	4,328.06
Sinking fund and principal payments on debentures	982 52	2,236.50	189.67	945.69	6,754.90
Depreciation	691.00	2,807.00	254.00	1,045.00	4,242.00
Other reserves	....	400.00	....	....	....
Total operating costs and fixed charges	10,878.28	41,341.78	3,912.78	28,138.99	62,862.45
Net surplus	....	1,800.97	741.12	....	....
Net loss	808.67	....	....	284.34	3,332.58
NUMBER OF CONSUMERS					
Domestic service	238	667	91	300	1,249
Commercial light service	79	167	26	44	224
Power service	4	55	1	9	25
Total	321	889	118	353	1,498

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Port Credit 1,650	Port Dalhousie 1,331	Port Dover 1,680	Port Rowan 674	Port Stanley 723	Preston 6,138	Princeton P.V.	Queenston P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
13,127.25	13,147.96	8,036.80	3,479.35	12,781.37	40,489.55	2,143.41	2,539.83
4,609.43	2,736.23	4,405.46	1,657.90	3,704.61	15,920.17	697.24	818.72
892.93	5,038.13	4,976.57	90.49	3,470.65	32,698.58	3,075.76	187.73
1,311.91	....	....	....	727.80	954.78	....	....
2,710.00	1,630.00	2,964.17	1,242.00	2,003.16	4,986.96	481.00	456.10
....	....	....	....	....	....	....	....
39.50	143.34	....	....	307.70	965.27	15.83	32.00
22,691.02	22,695.66	20,383.00	6,469.74	22,995.29	96,015.31	6,413.24	4,034.38
18,405.63	15,064.63	11,301.52	3,799.50	13,687.99	65,046.64	5,082.38	2,318.16
....	....	....	....	....	4,301.33	....	....
....	....	....	....	....	22.96	....	....
837.14	1,652.03	936.71	246.25	2,080.79	2,559.87	60.82	199.22
39.24	....	56.86	....	2.60	438.79	....	....
52.35	439.26	151.60	55.78	133.50	1,256.03	....	....
21.95	....	....	....	....	98.73	....	....
326.73	261.00	346.75	48.61	173.62	884.59	75.58	67.54
....	....	....	....	....	52.16	....	....
1,192.01	657.00	454.66	204.00	617.47	1,693.98	160.75	....
411.33	786.86	292.58	188.66	598.46	1,499.78	34.75	324.05
53.19	70.44	30.98	23.41	115.19	815.07	22.50	....
....	336.80	....	....	205.65	650.66	....	....
416.49	663.30	800.23	1,009.32	411.44	2,831.28	104.06	346.57
535.09	1,277.85	2,094.47	400.17	821.38	5,185.56	128.58	465.37
1,466.00	947.00	1,260.00	338.00	1,231.00	8,095.00	244.00	318.00
....	....	....	....	....	100.00	....	....
23,757.15	22,156.17	17,726.36	6,313.70	20,079.09	95,532.43	5,913.42	4,038.91
....	539.49	2,656.64	156.04	2,916.20	482.88	499.82	....
1,066.13	....	....	....	....	....	....	4.53
400	587	476	101	596	1,552	77	68
72	55	122	30	97	237	20	11
6	10	12	1	10	57	3	1
478	652	610	132	703	1,846	100	80

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Richmond Hill	Ridgetown	Riverside	Rockwood	Rodney
Population	1,270	1,942	5,125	P.V.	757
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	7,421.53	9,111.63	38,813.62	2,976.57	3,349.64
Commercial light service	3,736.73	4,836.72	4,275.26	948.07	2,393.00
Commercial power service	2,507.11	3,477.74	7,569.56	257.99	2,172.43
Municipal power	472.46	827.82	2,087.37	....	....
Street lighting	1,389.00	3,115.00	2,919.72	765.00	1,032.02
Merchandise	52.93	141.12	....	....	....
Miscellaneous	116.28	637.53	255.37	53.83	150.00
Total earnings	15,696.04	22,147.56	55,920.90	5,001.46	9,097.09
EXPENSES					
Power purchased	9,004.24	16,469.32	38,002.59	3,814.30	6,127.85
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	1,258.92	1,108.70	859.37	145.33	404.14
Line transformer maintenance	....	246.14	89.42	....	....
Meter maintenance	....	522.16	1,012.70	45.78	148.72
Consumers' premises expenses	....	62.09	943.00	....	....
Street lighting, operation and maintenance	229.97	459.66	835.60	64.50	184.30
Promotion of business	....	....	865.47	....	....
Billing and collecting	....	1,024.60	3,635.25	....	347.50
General office, salaries and expenses	600.21	940.62	1,783.18	444.78	245.57
Undistributed expenses	....	74.10	1,133.43	22.92	29.51
Truck operation and maintenance	....	167.18	943.13	....	....
Interest	257.60	415.26	3,491.29	121.22	314.96
Sinking fund and principal payments on debentures	677.16	357.66	3,761.13	79.39	276.37
Depreciation	533.00	1,300.00	3,871.00	427.00	425.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	12,561.10	23,147.49	61,226.56	5,165.22	8,503.92
Net surplus	3,134.94	....	....	....	593.17
Net loss	....	999.93	5,305.66	163.76	....
NUMBER OF CONSUMERS					
Domestic service	321	557	1,081	145	202
Commercial light service	60	144	47	34	73
Power service	17	24	8	2	7
Total	398	725	1 136	181	282

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

St. Catharines 26,192	St. Clair Beach	St. George P.V.	St. Jacobs P.V.	St. Marys 4,016	St. Thomas 16,275	Sandwich 11,017
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
144,062.04	2,297.29	2,876.52	3,829.52	28,360.01	107,077.52	88,361.44
47,684.43	1,133.89	1,026.14	1,134.57	9,291.65	46,670.29	16,649.87
86,508.23	374.68	2,168.29	1,030.20	14,183.81	42,915.85	12,067.13
....	....	....	....	2,674.49	5,617.68	....
20,524.24	....	370.50	460.00	4,096.75	14,604.46	9,874.46
....	....	....	....	189.10	....	140.31
4,262 84	....	110.99	160.58	187.53	2,789.64	562.62
303,041.78	3,805.86	6,552.44	6,614.87	58,983.34	219,675.44	127,655.83
190,682.11	2,786.45	5,749.34	5,359.74	46,680.61	158,232.48	91,437.13
4,174.09	....	....	....	1,150.76	6,982.45	....
....	....	....	....	95.82	1,549.23	24.40
12,430.10	136.34	57.13	53.48	2,551.90	9,668.72	1,639.56
1,228.63	22.93	....	....	424.48	889.16	416.55
5,555.09	55.97	231.73	....	745.87	2,137.46	1,815.72
2,266.58	27.55	....	....	34.35	1,799.33	318.21
3,251.98	....	68.15	31.65	1,315.80	3,004.44	1,752.01
38.00	29.57	....	3.00	....	52.74	....
9,760.82	185.75	545.96	....	1,283.72	4,783.04	5,511.82
10,761.91	31.59	51.51	430.40	1,208.30	11,000.52	5,865.36
4,436.52	97.92	24.20	....	622.91	4,119.52	1,270.33
2,101.48	63.28	....	....	514.84	1,419.87	1,098.92
11,977.28	261.71	196.81	117.90	2,322.37	1,475.83	6,210.56
12,950.11	333.73	216.02	384.19	2,163.58	4,839.07	6,450.31
16,868.00	317.00	300.00	349.00	4,388.00	12,610.00	5,735.00
....	....	....	....	90.15	....	....
288,482.70	4,349.79	7,440.85	6,729.36	65,593.46	224,563.86	129,545.88
14,559.08	....	....	....	....	....	....
....	543.93	888.41	114.49	6,610.12	4,888.42	1,890.05
6,361	38	132	109	1,034	3,999	2,392
710	8	36	28	195	635	210
152	2	3	6	37	80	29
7,223	48	171	143	1,266	4,714	2,631

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Sarnia	Scarboro' Twp.	Seaforth	Simcoe	Springfield
Population	17,801		1,692	5,397	379
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	104,443.09	88,543.29	10,808.12	20,283.75	1,656.59
Commercial light service	45,760.80	17,694.05	5,076.86	24,148.61	707.14
Commercial power service	167,781.48	9,958.30	4,162.74	23,340.23	1,060.65
Municipal power	....	11,227.44	656.01	2,388.41	....
Street lighting	18,456.98	14,911.65	1,788.00	4,527.48	550.00
Merchandise	....	....	398.56	....	....
Miscellaneous	4,016.71	436.55	608.31	717.58	251.83
Total earnings	340,459.06	142,771.28	23,498.60	75,406.06	4,226.21
EXPENSES					
Power purchased	237,328.45	82,430.26	16,215.02	44,150.24	3,662.78
Substation operation	8,228.99	....	....	467.24	....
Substation maintenance	354.75	123.27	7.95	....	....
Distribution system, operation and maintenance	6,876.14	5,822.56	1,578.14	3,740.82	10.48
Line transformer maintenance	769.34	1,093.99	....	89.99	....
Meter maintenance	3,333.21	1,106.31	126.77	1,422.07	100.40
Consumers' premises expenses	....	296.62	....	135.94	....
Street lighting, operation and maintenance	6,041.61	1,723.58	330.00	853.99	67.08
Promotion of business	1,842.59	....	....	71.64	....
Billing and collecting	6,689.54	5,586.84	830.36	1,523.73	300.19
General office, salaries and expenses	10,747.76	6,335.47	369.55	2,185.73	71.37
Undistributed expenses	5,858.44	2,811.20	108.89	649.24	21.25
Truck operation and maintenance	2,816.90	1,841.98	192.35	587.52	....
Interest	8,864.06	11,728.27	1,251.60	2,711.63	211.16
Sinking fund and principal payments on debentures	20,422.66	13,386.95	445.75	2,948.96	168.66
Depreciation	17,715.00	10,650.00	1,752.00	3,360.00	337.00
Other reserves	....	130.00	....	....	....
Total operating costs and fixed charges	337,889.44	145,067.30	23,208.38	64,898.74	4,950.37
Net surplus	2,569.62	....	290.22	10,507.32	....
Net loss	....	2,296.02	....	....	724.16
NUMBER OF CONSUMERS					
Domestic service	4,546	4,404	391	1,144	98
Commercial light service	610	361	105	306	30
Power service	85	30	15	38	3
Total	5,241	4,795	511	1,488	131

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Stamford Twp.	Stouffville 1,105	Stratford 18,869	Strathroy 2,879	Sutton 809	Tavistock 1,042	Tecumseh 2,546	Thamesford P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
51,719.41	7,124.57	146,586.63	20,207.78	7,578.25	6,906.75	14,603.68	2,428.13
6,593.80	2,739.57	51,772.30	9,754.05	2,981.82	2,051.73	3,171.42	1,310.32
3,852.98	839.91	51,420.95	9,319.29	1,073.01	8,476.95	1,322.34	2,979.91
1,826.90	....	12,209.44	1,501.00	....	460.57	....	....
7,914.64	1,764.00	16,539.00	4,075.71	1,861.00	1,212.00	960.00	517.00
....	....	....	....	....	....	....	....
....	324.25	6,495.66	1,015.18	152.28	250.99	....	344.88
71,907.73	12,792.30	285,023.98	45,873.01	13,646.36	19,358.99	20,057.44	7,580.24
36,822.04	8,131.48	200,007.95	28,976.73	8,932.52	16,964.12	10,658.85	6,245.97
503.82	....	4,994.95	221.40	....	....	....	....
....	....	870.56	261.99	....	....	....	....
5,422.41	625.49	6,116.52	1,578.12	333.52	463.47	523.42	218.43
139.06	....	553.36	340.87	....	....	39.68	9.16
1,236.37	....	1,488.50	518.94	....	23.73	373.40	157.71
....	....	323.25	....	....	....	297.99	....
1,630.12	133.60	3,232.58	692.34	129.75	46.98	191.10	49.85
712.43	....	616.95	261.97	....	....	421.48	....
3,066.06	....	6,056.05	797.48	502.97	622.54	1,684.40	173.97
3,684.60	408.53	4,372.10	1,740.35	65.17	167.40	408.03	89.88
1,368.67	....	6,797.02	391.30	47.61	55.95	450.04	19.50
1,870.51	....	1,015.36	298.53	....	....	409.85	....
9,504.11	447.76	21,775.00	1,884.42	972.93	201.03	1,406.54	95.49
10,555.98	1,512.84	9,239.60	1,633.32	1,346.60	197.13	1,317.64	206.55
5,783.00	505.00	19,951.00	3,140.00	830.00	777.00	1,457.00	427.00
....	....	1,208.87	....	....	....	....	....
82,299.18	11,764.70	288,619.62	42,737.76	13,161.07	19,519.35	19,639.42	7,693.51
....	1,027.60	....	3,135.25	485.29	....	418.02	....
10,391.45	....	3,595.64	....	....	160.36	....	113.27
1,645	336	4,293	802	382	261	506	121
111	80	614	173	84	68	47	39
13	5	132	25	5	6	3	7
1,769	421	5,039	1,000	471	335	556	167

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Thamesville	Thedford	Thorndale	Thorold	Tilbury
Population	754	577	P.V.	5,068	1,996
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	4,003.41	3,152.75	1,432.95	18,732.14	6,539.15
Commercial light service	2,756.04	1,796.45	920.15	6,486.84	6,999.33
Commercial power service	2,111.24	1,599.64	254.32	26,575.95	6,888.96
Municipal power	249.46	....	....	2,901.88	229.50
Street lighting	1,191.00	1,035.00	384.00	3,551.00	1,580.22
Merchandise	....	....	....	....	....
Miscellaneous	337.31	50.90	2.62	388.87	574.88
Total earnings	10,648.46	7,634.74	2,994.04	58,636.68	22,812.04
EXPENSES					
Power purchased	6,500.46	4,712.96	2,711.26	45,747.53	14,547.09
Substation operation	....	....	....	2,015.75	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	504.14	108.30	30.44	2,969.32	1,347.33
Line transformer maintenance	....	....	....	....	38.92
Meter maintenance	157.43	....	42.49	276.45	174.66
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	235.47	67.10	47.00	575.43	273.37
Promotion of business	....	....	....	....	....
Billing and collecting	206.63	207.86	55.34	1,169.17	644.29
General office, salaries and expenses	318.53	81.85	5.10	878.65	529.70
Undistributed expenses	38.50	20.43	17.75	373.93	196.13
Truck operation and maintenance	....	....	....	372.70	....
Interest	280.22	633.83	75.56	....	437.94
Sinking fund and principal payments on debentures	560.42	851.48	87.07	....	637.27
Depreciation	735.00	380.00	230.00	2,660.00	1,121.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	9,536.80	7,063.81	3,302.01	57,038.93	19,947.70
Net surplus	1,111.66	570.93	....	1,597.75	2,864.34
Net loss	....	....	307.97	....	....
NUMBER OF CONSUMERS					
Domestic service	219	126	62	1,165	420
Commercial light service	71	40	24	191	135
Power service	8	3	1	16	12
Total	298	169	87	1,372	567

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Tillsonburg 3,351	Toronto 626,674	Toronto Twp	Trafalgar Twp. Area No. 1	Trafalgar Twp. Area No. 2	Walkerville 10,681	Wallaceburg 4,343
$ c	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
14,962.86	3,747,121.17	58,575.37	14,152.49	4,967.94	104,317.38	18,859.03
11,687.36	2,873,701.12	13,743.10	640.62	....	29,322.93	10,687.00
10,821.20	3,167,430.03	6,862.46	520.19	....	127,701.63	49,402.59
834.59	1,307,218.35	....	....	....	....	1,913.90
4,336.51	531,411.66	4,975.20	....	....	11,739.96	4,167.00
9.36	....	....	....	....	....	....
485.15	268,812.13	1,460.57	222.18	96.87	2,182.57	719.62
43,137.03	11,895,694.46	85,616.70	15,535.48	5,064.81	275,264.47	85,749.14
27,345.49	6,493,300.17	50,054.65	7,888.00	2,272.25	203,458.83	61,125.39
889.99	217,852.14	....	....	....	5,385.14	248.00
....	247,239.28	....	....	....	1,739.13	....
3,022.14	350,632.98	3,706.18	2,134.48	535.72	3,890.69	1,914.39
267.53	37,083.99	468.63	....	....	397.92	....
264.18	101,462.78	402.28	68.70	....	2,728.77	713.77
44.95	295,659.39	....	....	....	2,759.58	39.75
549.98	133,653.43	623.94	....	....	2,578.80	836.01
....	178,555.92	....	....	....	4,220.93	836.17
756.15	344,206.94	3,096.58	....	....	6,074.17	2,201.19
3,509.20	365,072.53	4,607.09	1,414.13	549.27	10,297.39	2,341.53
355.47	*97,936.46	931.32	136.18	26.98	7,614.83	1,398.69
411.82	....	1,504.60	223.20	....	2,075.91	740.73
513.58	1,461,031.47	3,845.61	744.89	526.54	8,673.39	2,730.08
1,032.76	1,237,415.80	5,133.95	928.70	....	15,269.85	2,747.56
3,199.00	823,554.56	8,390.00	1,124.00	293.00	16,322.00	4,725.00
139.33	2,740.83	....	....	....	....	88.15
42,301.57	12,387,398.67	82,764.83	14,662.28	4,203.76	293,487.33	82,686.41
835.46	....	2,851.87	873.20	861.05	....	3,062.73
....	491,704.21	....	....	....	18,222.86	....
887	155,870	1,875	300	136	2,367	1,020
223	25,980	188	2	....	317	223
30	5,099	23	9	....	94	29
1,140	186,949	2,086	311	136	2,778	1,272

*Includes $25,817.88 York Twp. debenture charges.

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Continued

Municipality	Wardsville	Waterdown	Waterford	Waterloo	Watford
Population	214	924	1,168	8,563	956
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	1,124.76	5,645.12	6,575.26	58,827.49	6,682.44
Commercial light service	1,075.78	1,696.40	1,766.76	20,814.44	3,237.14
Commercial power service	....	1,468.02	4,146.55	24,058.94	2,356.16
Municipal power	....	192.52	276.32	3,505.88	435.37
Street lighting	700.00	901.50	1,608.00	7,499.04	1,344.96
Merchandise	....	....	....	320.62	....
Miscellaneous	55.84	11.60	260.49	149.94	335.79
Total earnings	2,956.38	9,915.16	14,633.38	115,176.35	14,391.86
EXPENSES					
Power purchased	1,936.53	6,493.32	11,933.09	91,535.77	9,303.14
Substation operation	....	....	....	1,401.68	....
Substation maintenance	....	....	....	1,377.44	....
Distribution system, operation and maintenance	51.30	307.05	331.30	3,743.64	742.05
Line transformer maintenance	....	49.65	....	33.60	....
Meter maintenance	....	110.96	42.55	1,035.65	138.48
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	36.30	60.01	174.46	762.00	136.02
Promotion of business	....	....	....	....	....
Billing and collecting	....	566.49	576.00	2,035.20	501.72
General office, salaries and expenses	182.83	145.52	398.68	3,383.28	539.82
Undistributed expenses	....	51.62	26.93	560.44	60.06
Truck operation and maintenance	....	....	....	984.87	129.36
Interest	299.17	10.50	....	2,881.88	124.17
Sinking fund and principal payments on debentures	412.83	....	....	4,892.31	712.62
Depreciation	235.00	791.00	966.00	8,762.00	752.00
Other reserves	....	....	....	128.00	....
Total operating costs and fixed charges	3,153.96	8,586.12	14,449.01	123,517.76	13,139.44
Net surplus	....	1,329.04	184.37	....	1,252.42
Net loss	197.58	....	....	8,341.41	....
NUMBER OF CONSUMERS					
Domestic service	47	218	306	1,850	284
Commercial light service	21	33	73	249	76
Power service	....	7	11	77	5
Total	68	258	390	2,176	365

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Welland 10,668	Wellesley P.V.	West Lorne 814	Weston 4,736	Wheatley 724	Windsor 65,565	Wood-bridge 744	Woodstock 10,956
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
49,514.12	2,706.26	3,197.04	39,599.41	4,427.83	503,381.88	6,370.89	72,772.34
28,463.15	1,527.81	1,483.82	9,376.18	2,717.93	225,233.06	1,632.47	37,336.87
60,726.86	1,773.00	1,277.99	31,984.50	1,599.90	170,277.85	4,670.69	46,357.30
2,397.93	....	....	588.46	461.86	11,734.67	410.44	2,846.43
10,559.01	720.00	1,010.00	7,610.13	1,355.25	76,109.88	900.00	8,013.40
1,841.15	....	....	....	....	....	....	....
3,384.77	12.76	55.57	899.56	92.66	....	21.48	3,554.32
156,886.99	6,739.83	7,024.42	90,058.24	10,655.43	986,737.34	14,005.97	170,880.66
94,636.78	5,208.81	3,970.10	68,789.37	6,401.77	589,905.81	10,143.24	131,319.41
4,898.27	....	....	....	....	15,910.88	....	2,724.48
90.61	....	....	169.36	....	3,473.27	....	83.45
7,144.69	31.44	150.33	4,658.02	498.49	12,577.85	418.69	5,138.27
132.46	....	....	332.01	24.70	1,844.42	....	549.12
2,985.44	52.40	32.16	830.30	146.44	12,278.03	....	1,273.79
263.90	....	....	....	....	22,628.07	....	....
1,121.71	36.84	117.24	961.09	275.56	13,375.44	151.28	2,197.71
....	....	....	....	....	18,016.56	....	267.30
4,103.83	....	464.70	641.10	328.18	31,162.17	....	3,716.79
9,018.64	431.05	169.62	2,930.44	193.40	27,751.66	563.59	4,999.07
943.33	26.03	15.00	582.05	43.73	17,147.22	....	1,651.43
1,597.40	....	....	454.68	....	14,675.38	....	817.35
14,131.55	138.84	328.57	2,216.03	485.15	65,640.56	480.66	3,424.55
9,991.62	517.94	257.07	3,016.95	603.65	85,361.15	291.59	2,682.05
12,213.53	313.00	593.00	4,830.00	588.00	64,790.00	800.00	11,775.00
....	....	....	....	....	....	....	....
163,273.76	6,756.35	6,097.79	90,411.40	9,589.07	996,538.47	12,849.05	172,619.77
....	....	926.63	....	1,066.36	....	1,156.92	....
6,386.77	16.52	....	353.16	....	9,801.13	....	1,739.11
2,271	121	187	1,248	171	14,605	244	2,904
438	44	49	179	57	2,263	50	443
83	5	4	30	4	318	6	86
2,792	170	240	1,457	232	17,186	300	3,433

STATEMENT

Detailed Operating Reports of Electrical Departments of

NIAGARA SYSTEM—Concluded

Municipality Population	Wyoming 482	*York Twp.	Zurich P.V.	NIAGARA SYSTEM SUMMARY
EARNINGS	$ c.	$ c.	$ c.	$ c.
Domestic service	2,647.88	558,465.55	3,176.37	9,263,031.01
Commercial light service	1,582.19	64,625.08	1,860.84	4,987,219.71
Commercial power service	152.10	89,734.45		7,326,323.77
Municipal power				1,646,884.64
Street lighting	765.00	49,614.79	693.00	1,389,025.47
Merchandise				9,301.81
Miscellaneous	15.28	17,073.89	117.72	402,652.28
Total earnings	5,162.45	779,513.76	5,847.93	25,024,438.69
EXPENSES				
Power purchased	3,201.18	379,460.71	4,601.35	15,413,215.29
Substation operation				404,570.48
Substation maintenance		27,860.54		281,366.35
Distribution system, operation and maintenance	92.89	20,607.93	232.42	722,383.72
Line transformer maintenance		3,984.68		71,396.55
Meter maintenance		6,128.79	67.55	230,149.55
Consumers' premises expenses		25,117.30		353,539.08
Street lighting, operation and maintenance	58.11	8,066.62	80.10	271,828.92
Promotion of business		3,031.51		244,030.17
Billing and collecting	166.00	37,034.11	183.94	673,185.33
General office, salaries and expenses	167.87	34,822.33	92.69	740,249.97
Undistributed expenses		35,912.94	20.11	268,362.00
Truck operation and maintenance				84,066.24
Interest	150.56	199,599.83	215.83	2,179,869.71
Sinking fund and principal payments on debentures	750.03	21,824.38	174.67	2,108,108.41
Depreciation	385.00	20,428.00	372.00	1,604,015.63
Other reserves				26,493.60
Total operating costs and fixed charges	4,971.64	823,879.67	6,040.66	25,676,831.00
Net surplus	190.81			
Net loss		44,365.91	192.73	652,392.31
NUMBER OF CONSUMERS				
Domestic service	132	19,397	124	366,817
Commercial light service	50	1,037	46	58,040
Power service	2	150		10,590
Total	184	20,584	170	435,447

*For year ended December 31, 1932. Included in Toronto figures. Not added in Summary.

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

GEORGIAN BAY SYSTEM

Alliston 1,379	Arthur 1,037	Barrie 7,455	Beaverton 960	Beeton 584	Bradford 1,009	Brechin P.V.	Cannington 851
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
8,513.19	4,569.26	52,465.38	6,038.34	3,594.50	6,341.25	971.23	5,185.51
4,492.67	3,636.14	29,741.26	2,354.80	2,482.40	3,006.67	1,074.32	2,337.93
1,665.75	1,636.55	15,417.24	1,080.55	1,852.91	2,654.76	1,077.29	619.89
812.96	576.53	983.33	....	....	336.89	....	....
2,070.00	1,748.00	5,961.25	1,286.52	1,185.00	1,273.00	576.00	1,022.00
....	....	....	....	....	60.43	....	....
28.64	....	1,302.38	793.85	9.66	60.67	28.53	80.75
17,583.21	12,166.48	105,870.84	11,554.06	9,124.47	13,733.67	3,727.37	9,246.08
11,574.06	9,561.78	76,201.02	7,686.41	7,116.40	8,416.51	2,641.63	6,682.04
....	....	894.47	....	....	....	....	....
....	....	....	....	....	....	....	....
623.40	553.34	2,870.39	991.21	42.63	225.49	302.50	586.78
....	....	493.80	....	....	....	....	....
....	....	1,485.18	....	....	....	....	....
....	....	....	....	....	....	....	....
339.40	89.55	1,020.39	169.02	193.93	57.23	42.09	149.70
....	....	....	....	....	....	....	10.60
822.79	....	3,102.46	....	....	634.56	....	....
135.55	378.13	1,122.64	607.09	408.38	76.17	143.77	568.93
85.81	....	1,000.07	....	....	254.61	....	....
....	....	583.59	....	....	....	....	....
1,765.08	1,155.08	3,048.82	366.62	534.07	1,176.50	219.05	505.57
1,390.41	720.71	2,691.38	580.34	447.01	836.30	98.29	608.17
1,332.00	906.00	7,023.00	1,101.00	579.00	825.00	138.00	652.00
....	....	300.00	....	....	....	....	....
18,068.50	13,364.59	101,837.21	11,501.69	9,321.42	12,502.37	3,585.33	9,763.79
....	....	4,033.63	52.37	....	1,231.30	142.04	....
485.29	1,198.11	....	....	196.95	....	....	517.71
351	185	2,011	303	124	223	42	246
201	86	407	63	37	63	28	71
16	4	45	9	5	8	4	10
568	275	2,463	375	166	294	74	327

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGAIN BAY SYSTEM—Continued

Municipality	Chatsworth	Chesley	Coldwater	Collingwood	Cookstown P.V.
Population	272	1,789	626	5,788	
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	1,590.06	8,902.79	2,884.70	26,122.58	2,479.81
Commercial light service	1,304.24	4,106.77	1,746.74	9,951.70	1,264.87
Commercial power service	583.08	8,451.38	2,557.43	16,342.67	911.92
Municipal power		991.04		1,895.68	
Street lighting	492.00	1,596.00	571.00	3,013.33	1,008.00
Merchandise		5.02			
Miscellaneous	89.84	664.48	209.01	1,515.88	46.37
Total earnings	4,059.22	24,717.48	7,968.88	58,841.84	5,710.97
EXPENSES					
Power purchased	2,565.47	18,031.74	6,811.92	49,999.25	2,686.76
Substation operation					
Substation maintenance				39.50	
Distribution system, operation and maintenance	189.73	672.90	298.24	1,789.46	168.78
Line transformer maintenance				70.59	
Meter maintenance		160.25		677.75	
Consumers' premises expenses					
Street lighting, operation and maintenance	59.22	188.20	63.00	239.71	86.48
Promotion of business				6.22	
Billing and collecting		386.41		2,866.05	
General office, salaries and expenses	327.53	612.45	497.22	2,913.18	270.22
Undistributed expenses		122.07		616.91	
Truck operation and maintenance		24.50		318.33	
Interest	282.18	404.81	217.73	300.00	444.62
Sinking fund and principal payments on debentures	216.19	1,934.61	267.27		282.86
Depreciation	262.00	1,206.00	531.00	3,750.00	503.00
Other reserves					
Total operating costs and fixed charges	3,902.32	23,743.94	8,686.38	63,586.95	4,442.72
Net surplus	156.90	973.54			1,268.25
Net loss			717.50	4,745.11	
NUMBER OF CONSUMERS					
Domestic service	73	420	131	1,420	96
Commercial light service	29	97	54	269	27
Power service	1	19	4	53	5
Total	103	536	189	1,742	128

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Creemore 587	Dundalk 647	Durham 1,800	Elmvale P.V.	Elmwood P.V.	Flesherton 491	Grand Valley 587	Gravenhurst 1,830
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
3,579.49	2,604.62	6,477.31	2,673.02	1,185.37	2,686.74	3,467.61	8,580.86
1,808.96	2,200.70	4,139.84	1,728.30	586.45	1,768.58	1,799.23	6,087.91
1,102.80	2,240.17	5,857.92	2,618.79	1,339.14	226.29	1,975.40	7,202.34
....	....	759.79	140.33	....	....	....	575.67
673.63	1,220.00	1,935.00	662.31	529.00	621.00	936.00	2,096.24
....	....	....	....	....	....	....	....
7.00	165.00	772.47	86.34	36.96	30.54	138.21	....
7,171.88	8,430.49	19,942.33	7,909.09	3,676.92	5,333.15	8,316.45	24,543.02
5,789.05	6,224.88	15,726.37	6,373.35	2,541.79	3,547.92	5,796.19	16,208.46
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
200.17	627.53	795.45	617.01	12.50	36.47	117.92	1,227.17
....	....	....	....	....	....	....	67.78
....	....	28.65	17.35	....	....	....	138.03
....	....	....	....	....	....	....	....
62.84	124.31	166.19	30.18	13.10	26.55	66.00	572.91
....	....	....	....	....	....	....	10.47
....	....	1,043.82	210.00	....	....	....	431.11
252.65	611.30	494.55	53.21	194.93	384.97	529.83	1,455.67
....	....	248.10	23.50	....	....	....	275.96
....	....	267.18	....	....	....	....	255.67
129.91	67.07	344.40	175.81	215.68	398.72	213.48	722.51
504.36	356.35	1,296.91	279.55	426.08	264.97	759.64	2,088.21
387.00	432.00	1,108.00	600.00	238.00	336.00	523.00	1,700.00
....	....	....	....	....	....	....	225.00
7,325.98	8,443.44	21,519.62	8,379.96	3,642.08	4,995.60	8,006.06	25,378.95
....	....	....	....	34.84	337.55	310.39	....
154.10	12.95	1,577.29	470.87	....	....	....	835.93
157	157	422	150	58	139	156	464
52	69	109	59	19	48	48	115
3	4	11	8	1	2	4	12
212	230	542	217	78	189	208	591

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality	Hanover	Holstein	Huntsville	Kincardine	Kirkfield
Population	3,036	P.V.	2,507	2,429	P.V.
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	18,407.63	1,479.27	10,973.86	13,824.32	749.21
Commercial light service	6,627.47	570.60	7,418.16	6,956.57	1,156.47
Commercial power service	17,684.10	238.59	11,515.00	9,058.53	...
Municipal power	309.97	...	1,400.00	1,444.90	...
Street lighting	3,488.16	490.00	2,675.00	4,022.50	460.00
Merchandise	...	...	...	...	...
Miscellaneous	1,540.64	...	682.94	30.18	...
Total earnings	48,057.97	2,778.46	34,664.96	35,337.00	2,365.68
EXPENSES					
Power purchased	31,066.93	1,955.95	29,980.04	25,823.72	1,423.29
Substation operation	...	...	...	336.94	...
Substation maintenance	...	...	...	...	...
Distribution system, operation and maintenance	1,776.72	51.05	2,322.42	1,258.69	204.62
Line transformer maintenance	36.37	...	19.45	...	...
Meter maintenance	114.89	...	49.10	...	...
Consumers' premises expenses	...	...	...	112.01	...
Street lighting, operation and maintenance	174.81	14.92	230.71	263.10	3.48
Promotion of business	...	...	96.10	...	...
Billing and collecting	1,097.39	...	507.34	678.44	...
General office, salaries and expenses	634.21	169.24	1,241.20	567.61	35.05
Undistributed expenses	491.15	...	719.78	377.31	...
Truck operation and maintenance	141.94	...	186.31	259.97	...
Interest	2,386.90	214.07	206.88	2,114.88	243.62
Sinking fund and principal payments on debentures	5,282.60	213.79	686.36	3,167.80	347.88
Depreciation	3,233.00	109.00	1,080.00	2,075.00	206.00
Other reserves	...	...	...	...	...
Total operating costs and fixed charges	46,436.91	2,728.02	37,325.69	37,035.47	2,463.94
Net surplus	1,621.06	50.44	...	...	...
Net loss	...	...	2,660.73	1,698.47	98.26
NUMBER OF CONSUMERS					
Domestic service	726	54	556	596	27
Commercial light service	119	18	123	120	20
Power service	20	1	9	19	...
Total	865	73	688	735	47

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Lucknow	Markdale	Meaford	Midland	Mildmay	Mount Forest	Neustadt	Orangeville
1,082	774	2,707	6,808	694	1,821	465	2,785
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
6,845.31	3,571.87	12,262.19	35,287.78	2,967.88	7,571.59	2,019.90	14,312.27
2,998.23	2,580.48	6,475.28	13,714.77	2,024.23	5,190.17	1,357.97	8,697.09
3,499.49	1,048.02	3,878.90	47,445.51	719.27	3,040.59	63.33	6,926.65
517.52	81.00	761.52	3,029.05	....	1,214.91	....	1,264.70
1,522.50	900.00	3,219.19	6,175.84	659.56	2,370.00	975.00	3,760.20
....	....	2.58	....	....	....	....	16.61
187.01	....	765.66	....	21.06	262.75	....	168.65
15,570.06	8,181.37	27,365.32	105,652.95	6,392.00	19,650.01	4,416.20	35,146.17
10,946.31	5,784.99	17,537.97	80,691.58	3,054.84	15,632.99	3,441.78	26,032.43
....	....	....	1,993.84	....	....	....	....
....	....	....	207.58	....	....	....	....
363.49	22.44	953.55	2,373.26	149.64	469.98	28.92	1,315.31
....	....	34.50	78.54	....	....	....	....
....	....	40.07	781.45	229.09	159.45	....	49.55
....	....	....	....	....	....	....	10.70
122.76	117.48	209.00	676.98	42.80	320.62	69.95	485.42
....	....	....	875.21	....	....	....	....
....	....	579.35	2,179.46	....	817.89	....	1,418.12
876.03	439.21	1,749.10	2,409.97	375.06	386.50	205.61	35.40
....	....	468.22	2,008.55	....	119.25	....	101.02
....	....	121.52	315.28	....	39.05	....	....
739.41	375.21	1,971.51	2,555.03	408.86	713.66	921.48	656.87
962.87	306.55	1,018.24	5,449.28	408.27	635.63	986.86	2,307.85
732.00	576.00	1,340.00	9,512.00	206.00	1,310.00	560.00	1,916.00
....	....	....	....	....	....	....	....
14,742.87	7,621.88	26,023.03	112,108.01	4,874.56	20,605.02	6,214.60	34,328.67
827.19	559.49	1,342.29	....	1,517.44	....	....	817.50
....	....	....	6,455.06	....	955.01	1,798.40	....
252	187	638	1,564	140	447	96	654
79	79	138	227	47	160	28	161
7	10	17	55	2	11	2	27
338	276	793	1,846	189	618	126	842

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Continued

Municipality Population	Owen Sound 12,803	Paisley 732	Penetanguishene 4,046	Port Elgin 1,230	Port McNicoll 928
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	60,161.55	3,937.95	11,560.03	8,046.31	3,643.06
Commercial light service	33,647.11	2,679.61	4,471.57	4,123.07	801.37
Commercial power service	37,592.84	1,155.09	10,183.08	3,400.92	....
Municipal power	....	....	1,752.93	886.65	....
Street lighting	11,181.23	1,408.00	2,149.00	2,103.79	927.50
Merchandise	279.45	....	17.81	....	....
Miscellaneous	131.16	143.99	77.30	315.46	....
Total earnings	142,993.34	9,324.64	30,211.72	18,876.20	5,371.93
EXPENSES					
Power purchased	106,952.41	6,583.66	21,327.95	8,730.36	3,295.61
Substation operation	4,695.16	....	643.51	....	....
Substation maintenance	....	....	103.71	....	....
Distribution system, operation and maintenance	5,903.00	128.90	1,438.26	942.49	383.69
Line transformer maintenance	548.54	....	106.25	....	....
Meter maintenance	1,059.77	....	222.53	44.54	....
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	2,614.07	105.84	248.20	217.80	120.84
Promotion of business	....	....	....	....	....
Billing and collecting	5,216.40	....	942.21	689.37	....
General office, salaries and expenses	5,646.34	472.50	686.68	86.98	120.75
Undistributed expenses	2,647.53	....	270.72	138.58	....
Truck operation and maintenance	730.57	....	142.90	272.95	....
Interest	516.18	618.43	1,122.97	1,981.31	186.79
Sinking fund and principal payments on debentures	....	742.95	1,655.05	1,400.40	484.43
Depreciation	6,920.00	506.00	2,817.00	826.00	390.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	143,449.97	9,158.28	31,727.94	15,330.78	4,982.11
Net surplus	....	166.36	....	3,545.42	389.82
Net loss	456.63	....	1,516.22	....	....
NUMBER OF CONSUMERS					
Domestic service	3,257	186	599	373	197
Commercial light service	576	55	99	86	31
Power service	115	4	27	8	....
Total	3,948	245	725	467	228

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Port Perry 1,130	Priceville P.V.	Ripley 451	Rosseau 251	Shelburne 1,064	Southampton 1,520	Stayner 1,042	Sunderland P.V.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
6,660.96	675.10	3,363.35	2,871.74	5,384.95	8,144.39	4,391.43	2,335.55
2,805.22	332.43	1,858.53	927.90	3,309.71	3,487.74	2,642.06	1,699.71
2,528.58	....	....	....	1,591.58	2,137.68	2,375.56	55.85
372.11	....	....	....	578.43	1,231.34	....	....
1,500.00	560.00	1,266.00	1,240.00	960.00	2,106.92	1,224.00	706.67
....	....	....	....	....	....	....	....
894.65	11.55	4.49	141.67	233.65	150.44	328.64	50.00
14,761.52	1,579.08	6,492.37	5,181.31	12,058.32	17,258.51	10,961.69	4,847.78
9,873.21	1,139.68	4,204.77	3,550.01	9,554.83	8,228.69	8,245.44	3,473.99
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....
901.67	15.24	35.50	206.93	925.20	1,109.33	549.12	170.22
....	....	....	45	....	2.10	....	....
....	....	....	....	....	50.85	....	....
....	....	....	....	1.82	....	....	....
100.25	21.76	66.72	24.69	51.87	148.14	142.22	21.37
....	....	....	....	....	....	....	....
....	....	....	131.81	553.89	863.40	566.06	....
820.37	46.61	419.48	7.52	74.74	233.93	112.57	321.77
....	....	....	15.75	....	235.85	72.92	....
15.00	....	....	....	....	307.68	....	....
954.68	454.94	648.74	956.15	349.69	1,428.87	176.21	222.84
747.50	328.21	381.78	....	1,321.85	1,100.31	1,085.53	318.58
821.00	177.00	426.00	288.00	945.00	701.00	806.00	278.00
....	....	....	....	....	....	....	....
14,233.68	2,183.44	6,182.99	5,181.31	13,778.89	14,410.15	11,756.07	4,806.77
527.84	....	309.38	....	....	2,848.36	....	41.01
....	604.36	....	....	1,720.57	....	794.38	....
300	31	128	61	285	384	257	112
75	12	44	21	83	83	83	42
10	....	....	....	11	13	12	1
385	43	172	82	379	480	352	155

STATEMENT

Detailed Operating Reports of Electrical Departments of

GEORGIAN BAY SYSTEM—Concluded

Municipality	Tara	Teeswater	Thornton	Tottenham	Uxbridge
Population	491	805	P.V.	546	1,506
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	2,632.36	4,642.20	1,151.90	3,227.06	8,019.21
Commercial light service	1,306.32	2,219.12	637.95	2,100.62	3,255.12
Commercial power service	690.33	939.09	243.14	166.00	931.13
Municipal power	....	180.00	....	194.99	....
Street lighting	1,260.00	1,402.00	880.00	1,225.08	1,743.00
Merchandise	....	....	....	....	....
Miscellaneous	6.04	190.45	2.79	3.45	405.78
Total earnings	5,895.05	9,572.86	2,915.78	6,917.20	14,354.24
EXPENSES					
Power purchased	3,432.35	6,115.52	1,481.77	5,087.62	10,902.64
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	175.70	62.41	46.75	322.35	585.46
Line transformer maintenance	....	....	....	....	....
Meter maintenance	....	....	....	....	....
Consumers' premises expenses	....	....	....	....	....
Street lighting, operation and maintenance	37.10	69.55	17.32	105.46	229.30
Promotion of business	....	....	....	....	....
Billing and collecting	....	....	....	....	....
General office, salaries and expenses	486.60	543.08	81.93	192.20	785.19
Undistributed expenses	....	....	....	....	....
Truck operation and maintenance	....	....	....	....	....
Interest	354.98	993.03	306.86	445.71	772.92
Sinking fund and principal payments on debentures	942.80	1,132.80	425.02	383.81	973.67
Depreciation	520.00	690.00	307.00	410.00	665.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	5,949.53	9,606.39	2,666.65	6,947.15	14,914.18
Net surplus	....	....	249.13	....	....
Net loss	54.48	33.53	....	29.95	559.94
NUMBER OF CONSUMERS					
Domestic service	127	195	55	128	354
Commercial light service	36	55	18	54	91
Power service	4	7	4	4	10
Total	167	257	77	186	455

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Victoria Harbor 1,171	Walkerton 2,340	Waubaushene P.V.	Wiarton 1,911	Windermere 135	Wingham 1,842	Woodville 414	GEORGIAN BAY SYSTEM SUMMARY
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,894.43	15,041.12	2,221.71	8,800.93	2,241.87	12,512.87	2,291.30	478,039.49
839.09	7,683.67	630.34	5,782.47	1,095.71	6,933.68	1,068.90	249,726.99
47.34	4,262.46	604.89	1,820.13	....	8,308.52	770.18	262,336.64
124.20	657.15	98.29	1,403.92	....	480.35	....	25,056.15
702.00	2,369.55	405.00	2,300.00	455.00	3,423.00	532.00	105,222.97
....	27.87	....	....	....	669.15	....	1,078.92
1.10	85.90	110.56	....	10.13	470.69	298.83	13,794.19
4,608.16	30,127.72	4,070.25	20,107.45	3,802.71	32,798.26	4,961.21	1,135,255.35
3,112.17	16,105.10	2,153.97	14,375.20	2,026.84	16,384.56	3,193.34	805,087.51
....	....	....	....	....	1,746.47	....	10,310.39
....	....	....	....	....	....	....	350.79
50.09	1,885.83	113.17	408.39	168.92	2,549.36	246.32	43,563.46
....	70.00	....	....	....	....	....	1,528.37
....	112.30	....	126.45	....	295.20	....	5,842.45
....	....	....	....	....	....	....	124.53
116.06	203.80	75.79	212.13	29.67	355.92	34.45	11,862.35
....	....	....	....	....	....	....	998.60
....	1,468.08	....	990.90	159.41	577.04	....	28,933.76
353.29	1,117.42	324.35	279.86	29.18	714.42	321.03	35,441.35
....	161.88	....	107.50	36.75	451.76	....	11,051.55
....	285.56	....	92.77	....	139.18	....	4,499.95
81.75	3,054.73	48.94	1,658.63	*719.36	2,459.05	187.88	46,897.73
463.21	2,000.55	256.21	1,131.07	....	3,901.39	231.73	59,232.44
390.00	1,324.00	264.00	700.00	282.00	2,797.00	223.00	71,460.00
....	....	....	....	....	....	....	525.00
4,566.57	27,789.25	3,236.43	20,082.90	3,452.13	32,371.35	4,437.75	1,137,710.23
41.59	2,338.47	833.82	24.55	350.58	426.91	523.46	....
....	....	....	....	....	....	....	2,454.88
167	535	134	349	48	504	110	22,141
28	134	25	103	9	143	31	5,287
2	17	3	13	....	24	2	699
197	686	162	465	57	671	143	28,127

*Includes debenture accrual.

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM

Municipality	Alexandria	Apple Hill	Athens	Bath	Belleville
Population	2,340	P.V.	582	350	14,059
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	7,390.51	1,080.88	3,966.74	1,441.86	76,682.94
Commercial light service	4,173.80	827.60	1,813.42	718.97	48,107.35
Commercial power service	3,174.90	279.49	1,127.76		34,529.14
Municipal power	1,634.41				7,709.49
Street lighting	2,640.00	559.75	1,250.00	714.00	11,655.86
Merchandise					544.70
Miscellaneous	355.93	3.38	19.19	16.03	885.68
Total earnings	19,369.55	2,751.10	8,177.11	2,890.86	180,115.16
EXPENSES					
Power purchased	12,609.86	1,726.10	4,738.92	2,105.43	128,674.13
Substation operation					
Substation maintenance					
Distribution system, operation and maintenance	885.29	52.10	87.12	8.18	3,914.42
Line transformer maintenance	122.42		2.24		288.26
Meter maintenance	152.13		19.79		2,889.51
Consumers' premises expenses	3.03				325.52
Street lighting, operation and maintenance	299.66	58.01	108.87		1,399.56
Promotion of business					1,185.78
Billing and collecting	912.85				4,245.76
General office, salaries and expenses	400.91	234.39	174.62	131.73	7,098.63
Undistributed expenses	105.51		15.00		1,762.82
Truck operation and maintenance					214.16
Interest	1,466.06	222.47	674.09	485.30	1,701.00
Sinking fund and principal payments on debentures	2,498.40	303.95	497.41	215.09	6,000.00
Depreciation	1,298.00	159.00	437.00	164.00	5,251.00
Other reserves					
Total operating costs and fixed charges	20,754.12	2,756.02	6,755.06	3,109.73	164,950.55
Net surplus			1,422.05		15,164.61
Net loss	1,384.57	4.92		218.87	
NUMBER OF CONSUMERS					
Domestic service	295	46	140	31	3,004
Commercial light service	92	18	50	16	555
Power service	14	1	1		90
Total	401	65	191	47	3,649

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Bloomfield 614	Bowmanville 3,641	Brighton 1,413	Brockville 9,615	Cardinal 1,305	Carleton Place 4,272	Chesterville 950
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
2,713.31	30,135.04	10,102.13	45,903.86	6,257.90	18,946.89	5,396.47
807.79	10,239.80	4,619.79	25,015.27	1,943.40	9,355.65	2,298.21
497.13	40,064.74	2,051.65	30,457.81	551.64	23,803.35	2,562.57
....	....	....	5,566.61	....	1,930.94	....
720.00	4,057.17	1,644.00	8,772.50	1,066.00	4,385.00	1,032.00
....	....	....	....	....	....	241.05
5.46	620.16	77.59	6,450.70	4.44	2,203.81	506.08
4,743.69	85,116.91	18,495.16	122,166.75	9,823.38	60,625.64	12,036.38
4,139.16	63,015.45	10,233.57	75,024.19	5,566.26	38,341.57	8,042.22
....	....	....	5,415.00	....	....	....
....	....	....	498.09	....	171.79	....
63.90	2,291.59	2,722.31	1,793.65	823.14	1,765.85	977.58
....	288.34	140.00	418.09	45.00	65.30	....
157.26	472.34	262.53	1,957.13	4.80	176.60	....
....	4.10	48.95	....	1.48	....	....
100.00	610.53	182.99	1,871.14	176.85	298.48	180.00
....	8.35	64.96	198.92	....	....	....
....	1,943.55	815.02	2,159.94	....	1,557.25	409.75
201.76	2,515.67	1,487.67	5,082.23	499.27	3,373.66	413.89
....	979.05	733.98	1,928.91	....	276.02	....
....	....	350.94	608.87	....	648.34	....
486.48	2,965.14	1,140.51	3,935.46	703.50	2,684.61	106.24
403.82	2,309.30	851.76	7,249.18	500.13	2,409.68	190.90
486.00	1,493.00	574.00	8,191.00	329.00	1,974.00	597.00
....	....	....	....	....	500.00	....
6,038.38	78,896.41	19,609.19	116,331.80	8,649.43	54,243.15	10,917.58
....	6,220.50	....	5,834.95	1,173.95	6,382.49	1,118.80
1,294.69	....	1,114.03	....	....	....	....
148	1,045	537	2,541	286	938	227
26	173	95	438	50	178	65
4	29	9	67	2	18	3
178	1,247	641	3,046	338	1,134	295

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Cobourg	Colborne*	Deseronto	Finch	Hastings
Population	5,619	977	1,418	383	707
Earnings	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	30,913.56	4,517.68	6,416.69	1,941.99	3,997.82
Commercial light service	18,424.66	3,112.69	2,254.49	1,549.09	1,684.61
Commercial power service	22,556.07	357.94	1,171.51	700.39	759.66
Municipal power	5,388.15	233.32	856.70	....	....
Street lighting	5,584.04	1,287.00	1,791.96	502.50	1,550.92
Merchandise	....	128.24	28.30	....	....
Miscellaneous	1,120.51	181.67	228.24	122.96	236.43
Total earnings	83,986.99	9,818.54	12,747.89	4,816.93	8,229.44
Expenses					
Power purchased	54,650.04	4,171.90	7,090.74	2,686.18	3,443.48
Substation operation	....	....	....	....	....
Substation maintenance	....	....	....	....	....
Distribution system, operation and maintenance	1,922.74	867.06	1,716.77	93.65	152.28
Line transformer maintenance	613.81	60.32	8.96	....	....
Meter maintenance	591.35	72.79	231.62	....	8.39
Consumers' premises expenses	210.47	....	....	....	....
Street lighting, operation and maintenance	684.56	108.69	245.36	28.90	85.08
Promotion of business	5.63	....	....	....	....
Billing and collecting	2,404.41	....	304.93	....	....
General office, salaries and expenses	3,940.15	1,237.79	701.75	213.48	388.46
Undistributed expenses	1,594.58	40.34	82.60	....	27.00
Truck operation and maintenance	124.75	220.66	....	....	....
Interest	4,763.05	940.11	574.36	374.58	1,155.40
Sinking fund and principal payments on debentures	3,291.15	....	487.88	254.64	635.39
Depreciation	2,207.00	188.00	350.00	253.00	419.00
Other reserves	....	....	....	....	....
Total operating costs and fixed charges	77,003.69	7,907.66	11,794.97	3,904.43	6,314.48
Net surplus	6,983.30	1,910.88	952.92	912.50	1,914.96
Net loss	....	....	....	....	....
Number of Consumers					
Domestic service	1,114	218	291	78	166
Commercial light service	141	79	66	31	49
Power service	45	3	11	1	5
Total	1,300	300	368	110	220

*Eleven months operation.

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Havelock	Kemptville	Kingston	Lakefield	Lanark	Lancaster	Lindsay
1,096	1,227	23,260	1,303	636	601	7,109
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
6,089.60	7,000.28	108,782.64	6,425.25	2,792.36	2,016.86	37,863.94
2,087.16	4,387.41	72,441.72	3,463.55	1,201.42	1,677.89	22,212.24
2,881.48	4,620.72	87,493.96	1,826.60			23,502.85
		10,776.04				2,766.94
1,508.00	1,830.00	25,486.08	1,836.00	592.00	1,496.50	8,172.90
363.29	1,013.48	5,093.99	709.52	104.92		2,838.90
12,929.53	18,851.89	310,074.43	14,260.92	4,690.70	5,191.25	97,357.77
7,263.50	10,635.37	133,259.80	10,133.61	3,392.60	3,377.46	68,252.96
		5,155.05				
		3,222.67				
751.52	1,594.48	18,450.85	886.32	317.43	105.50	2,860.38
	44.46	852.15				493.18
	296.74	5,377.77	42.63	96.57		480.86
		2,044.74				521.69
121.00	138.46	9,335.17	113.26	57.09	27.34	1,184.90
	37.24	216.79				
	969.33	7,519.97	595.74			2,610.25
358.46	510.82	13,008.98	611.09	304.23	301.90	6,405.06
		12,678.45	200.85			1,446.13
183.66	362.41	3,319.30				217.20
1,098.33	1,153.09	7,912.95	1,766.00	234.54	437.17	5,470.74
1,775.58	636.30	11,142.78	825.76	464.45	711.11	4,778.81
843.00	897.00	19,218.00	1,108.00	254.00	277.00	3,427.00
		25,744.76				
12,395.05	17,275.70	278,460.18	16,283.26	5,120.91	5,237.48	98,149.16
534.48	1,576.19	31,614.25				
			2,022.34	430.21	46.23	791.39
281	318	5,620	309	150	78	1,830
64	83	878	69	36	36	334
3	7	143	6			76
348	408	6,641	384	186	114	2,240

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Madoc	Marmora	Martintown	Maxville
Population	1,059	924	P.V.	785
EARNINGS	$ c.	$ c.	$ c.	$ c.
Domestic service	4,856.28	3,613.94	807.82	3,191.96
Commercial light service	3,484.56	1,496.46	987.08	2,396.57
Commercial power service	1,016.60	131.40	....	....
Municipal power	....	....	....	....
Street lighting	1,524.00	1,448.00	300.00	1,430.04
Merchandise	....	....	....	....
Miscellaneous	69.12	97.87	93.42	30.65
Total earnings	10,950.56	6,787.67	2,188.32	7,049.22
EXPENSES				
Power purchased	6,878.33	4,194.82	1,085.89	4,888.65
Substation operation	....	....	....	....
Substation maintenance	....	....	....	....
Distribution system, operation and maintenance	566.96	53.65	29.55	214.57
Line transformer maintenance	....	....	....	....
Meter maintenance	45.44	....	....	....
Consumers' premises expenses	....	....	....	....
Street lighting, operation and maintenance	193.85	76.50	38.70	59.42
Promotion of business	....	....	....	....
Billing and collecting	....	....	....	....
General office, salaries and expenses	1,091.32	503.51	130.50	304.13
Undistributed expenses	....	....	....	....
Truck operation and maintenance	....	....	....	....
Interest	70.54	551.35	195.19	474.86
Sinking fund and principal payments on debentures	447.48	720.86	328.21	872.41
Depreciation	374.00	539.00	135.00	481.00
Other reserves	....	....	....	....
Total operating costs and fixed charges	9,667.92	6,639.69	1,943.04	7,295.04
Net surplus	1,282.64	147.98	245.28	....
Net loss	....	....	....	245.82
NUMBER OF CONSUMERS				
Domestic service	260	198	35	132
Commercial light service	98	44	22	43
Power service	6	2	....	....
Total	364	244	57	175

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Napanee	Norwood	Omemee	Oshawa	Ottawa	Perth	Peterborough
3,014	727	498	23,002	130,672	3,994	22,809
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
26,679.48	4,480.44	2,249.60	148,818.93	421,647.54	22,755.27	117,648.00
13,744.34	2,176.66	1,268.12	57,042.47	159,028.96	15,109.94	57,718.24
12,225.60	626.22	1,452.73	134,048.33	54,871.97	16,128.17	73,455.92
1,467.01	....	....	6,366.23	29,594.68	2,075.60	6,386.77
4,473.94	1,578.00	924.00	10,573.28	72,933.23	2,066.00	19,518.00
....	....	....	....	....	1,452.85	....
767.94	400.51	....	5,619.03	....	1,949.87	1,280.86
59,358.31	9,261.83	5,894.45	362,468.27	738,076.38	61,537.70	276,007.79
37,613.44	3,971.85	2,779.53	328,295.17	368,718.84	38,116.49	196,442.92
....	....	....	....	23,876.25	360.00	5,998.99
....	....	....	....	609.01	....	356.46
4,264.78	728.76	375.10	5,912.29	23,828.68	1,348.51	5,543.76
418.45	....	2.50	367.06	2,020.19	48.86	850.54
1,114.00	....	79.84	947.14	10,443.72	597.82	4,696.52
55.52	....	....	145.15	3,471.66	....	267.11
989.79	120.00	40.39	1,677.49	25,698.32	522.75	3,067.29
....	....	....	618.48	10,463.05	....	....
1,599.02	....	....	9,182.16	36,755.94	1,440.35	6,369.51
3,880.12	479.36	264.06	4.691.14	20,630.80	3,100.09	6,349.90
2,046.57	....	....	3,821.12	22,146.16	735.21	5,102.62
94.18	189.55	....	....	2,308.87	401.22	2,423.03
1,682.49	1,743.04	235.97	12,755.46	47,700.61	2,880.45	27,488.77
2,384.96	1,026.21	760.29	11,063.49	21,224.29	1,819.09	14,263.54
1,529.00	1,027.00	558.00	9,162.00	71,594.00	3,224.00	15,627.00
....	....	....	964.86	19,000.00	....	1,200.00
57,672.32	9,285.77	5,095.68	389,603.01	710,490.39	54,594.84	296,047.96
1,685.99	....	798.77	....	27,585.99	6,942.86	....
....	23.94	....	27,134.74	....	....	20,040.17
770	217	126	5,878	12,491	934	5,274
190	70	47	510	1,382	192	774
35	2	6	98	214	25	155
995	289	179	6,486	14,087	1,151	6,203

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Continued

Municipality	Picton	Port Hope	Prescott	Richmond	Russell
Population	3,217	4,626	2,952	381	P.V.
EARNINGS	$ c.	$ c.	$ c.	$ c.	$ c.
Domestic service	21,579.51	29,372.14	15,796.30	1,868.77	2,535.67
Commercial light service	12,218.11	11,563.02	8,332.02	1,551.59	1,284.49
Commercial power service	6,746.07	22,168.35	3,234.08		
Municipal power	1,883.78	2,101.20	1,522.81		
Street lighting	4,364.04	4,615.00	3,475.00	500.00	736.00
Merchandise					
Miscellaneous	1,588.57	144.58	149.55	5.31	30.08
Total earnings	48,380.08	69,964.29	32,509.76	3,925.67	4,586.24
EXPENSES					
Power purchased	37,408.54	45,161.39	24,633.82	2,839.73	2,863.50
Substation operation			1,213.64		
Substation maintenance			11.71		
Distribution system, operation and maintenance	2,076.15	2,285.05	2,019.29	44.13	54.51
Line transformer maintenance	94.37	13.77	88.00		
Meter maintenance	464.19	1,210.08	181.45		
Consumers' premises expenses		1.50			
Street lighting, operation and maintenance	411.83	778.79	714.66	14.36	112.28
Promotion of business	7.12				
Billing and collecting	1,167.77	1,973.95	1,106.59		
General office, salaries and expenses	3,255.55	4,400.15	2,066.11	216.10	285.82
Undistributed expenses	185.32	958.68	397.40		
Truck operation and maintenance	247.94	209 76			
Interest	54.29	1,422.16		343.65	419.60
Sinking fund and principal payments on debentures		2,819.40		223.05	417.19
Depreciation	1,832.00	1,828.00	2,633.00	190.00	271.00
Other reserves					
Total operating costs and fixed charges	47,205.07	63,062.68	35,065.67	3,871.02	4,423.90
Net surplus	1,175 01	6,901 61		54 65	162 34
Net loss			2,555 91		
NUMBER OF CONSUMERS					
Domestic service	997	1,238	655	53	107
Commercial light service	204	203	155	24	33
Power service	38	45	19		
Total	1,239	1,486	829	77	140

"B"—Continued

Hydro Municipalities for Year Ended December 31, 1933

Smiths Falls 7,501	Stirling 865	Trenton 6,331	Tweed 1,247	Warkworth P.V.	Wellington 900	Westport 733
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
41,684.74	5,346.26	28,302.03	6,324.50	2,185.13	4,733.77	3,198.24
15,246.98	3,351.71	17,524.57	4,460.90	1,551.15	2,067.20	2,906.93
16,534.14	1,812.83	66,346.34	2,096.34	....	2,128.95	....
225.00	234.45	1,897.90	204.57	....	....	....
8,342.30	1,433.00	8,076.00	1,886.25	643.75	1,160.04	1,705.00
....	....	....	....	....	....	....
3,260.40	408.27	2,102.88	10.88	140.80	261.27	122.27
85,293.56	12,586.52	124,249.72	14,983.44	4,520.83	10,351.23	7,932.44
45,792.24	7,625.67	85,336.89	9,164.96	3,244.39	7,728.80	4,791.34
1,921.00	108.95	....	....	....	....	....
373.29	....	15.87	....	....	....	....
2,991.14	1,047.86	2,346.73	867.73	48.35	630.31	251.99
16.66	....	57.07	....	....	....	47.26
1,006.02	72.69	1,752.11	166.22	....	25.67	93
....	75	364.32	35	....	....	....
742.72	375.34	1,502.64	403.30	20.00	150.52	110.48
....	69.76	16.10	48.62	....	....	....
3,371.85	429.46	2,632.19	562.04	....	....	....
4,167.55	1,022.46	4,651.08	1,000.75	175.67	625.87	418.33
1,016.51	217.01	1,455.72	232.50	....	42.57	25.50
609.48	367.75	733.61	....	....	....	....
4,835.95	....	7,562.22	683.21	581.61	828.77	804.55
12,329.72	....	5,366.67	647.34	221.76	640.02	453.85
5,712.00	953.00	3,539.00	440.00	199.00	694.00	207.00
....	....	....	....	....	....	....
84,886.13	12,290.70	117,332.22	14,217.02	4,490.78	11,366.53	7,111.23
407.43	295.82	6,917.50	766.42	30.05	....	821.21
....	....	....	....	....	1,015.30	....
1,640	268	1,251	249	106	284	96
257	80	220	92	43	64	49
44	10	48	12	....	6	....
1,941	358	1,519	353	149	354	145

STATEMENT

Detailed Operating Reports of Electrical Departments of

EASTERN ONTARIO SYSTEM—Concluded

Municipality Population	Whitby 5,294	Williamsburg P.V.	Winchester 963	EASTERN ONTARIO SYSTEM SUMMARY
EARNINGS	$ c.	$ c.	$ c.	$ c.
Domestic service	19,548.69	3,702.03	5,870.21	1,377,574.45
Commercial light service	9,555.38	7,503.38	3,363.90	661,352.71
Commercial power service	14,189.33	231.98	1,548.03	715,964.74
Municipal power	2,312.74	....	....	93,135.34
Street lighting	3,716.43	192.00	1,062.00	248,809.48
Merchandise	....	....	36.87	2,432.01
Miscellaneous	1,355.95	165.44	363.54	43,581.42
Total earnings	50,678.52	11,794.83	12,244.55	3,142,850.15
EXPENSES				
Power purchased	37,949.47	5,726.19	8,812.03	1,984,639.39
Substation operation	....	....	....	44,048.88
Substation maintenance	162.12	....	....	5,421.01
Distribution system, operation and maintenance	2,861.02	721.37	577.53	106,793.88
Line transformer maintenance	45.31	....	....	7,512.57
Meter maintenance	456.78	....	....	36,551.43
Consumers' premises expenses	75.77	....	....	7,542.11
Street lighting, operation and maintenance	699.47	60.75	178.95	56,176.49
Promotion of business	144.80	....	....	13,085.60
Billing and collecting	1,588.13	....	....	94,627.71
General office, salaries and expenses	1,581.45	378.24	902.46	116,169.12
Undistributed expenses	251.89	....	....	60,506.02
Truck operation and maintenance	203.85	....	....	14,039.53
Interest	2,175.59	82.00	389.22	158,412.73
Sinking fund and principal payments on debentures	3,475.42	200.15	384.48	130,523.35
Depreciation	2,837.10	181.00	598.00	176,758.10
Other reserves	....	....	....	47,409.62
Total operating costs and fixed charges	54,508.17	7,349.70	11,842.67	3,060,217.54
Net surplus	....	4,445.13	401.88	82,632.61
Net loss	3,829.65	....	....	....
NUMBER OF CONSUMERS				
Domestic service	833	92	277	54,152
Commercial light service	158	63	68	8,707
Power service	21	1	2	1,327
Total	1,012	156	347	64,186

"B"—Concluded

Hydro Municipalities for Year Ended December 31, 1933

THUNDER BAY SYSTEM				
Fort William 25,188	Nipigon	Port Arthur 19,749	THUNDER BAY SYSTEM SUMMARY	ALL SYSTEMS GRAND SUMMARY
$ c.	$ c.	$ c.	$ c.	$ c.
200,550.28	2,510.41	107,395.49	310,456.18	11,429,101.13
61,130.12	1,831.65	51,764.78	114,726.55	6,013,025.96
43,150.68	255.31	732,490.93	775,896.92	9,080,522.07
23,404.22	724.63	37,667.09	61,795.94	1,826,872.07
17,029.60	510.00	18,984.96	36,524.56	1,779,582.48
....	....	....	....	12,812.74
7,331.24	....	18,566.30	25,897.54	485,925.43
352,596.14	5,832.00	966,869.55	1,325,297.69	30,627,841.88
269,607.02	3,115.86	855,196.51	1,127,919.39	19,330,861.58
6,169.16	....	19,665.66	25,834.82	484,764.57
378.82	....	1,066.32	1,445.14	288,583.29
10,090.24	474.20	12,045.49	22,609.93	895,350.99
283.77	29.48	1,570.58	1,883.83	82,321.32
6,665.82	40.40	3,866.33	10,572.55	283,115.98
293.48	....	....	293.48	361,499.20
6,307.37	19.88	6,887.14	13,214.39	353,082.15
....	....	1,822.05	1,822.05	259,936.42
11,086.77	....	9,826.46	20,913.23	817,660.03
5,589.70	592.86	10,474.79	16,657.35	908,517.79
4,307.99	....	4,873.80	9,181.79	349,101.36
1,601.44	....	1,245.52	2,846.96	105,452.68
22,960.97	376.70	17,768.51	41,106.18	2,426,286.35
12,241.58	433.28	8,780.03	21,454.89	2,319,319.09
11,986.37	473.00	30,021.77	42,481.14	1,894,714.87
1,643.82	....	18,213.50	19,857.32	94,285.54
371,214.32	5,555.66	1,003,324.46	1,380,094.44	31,254,853.21
....	276.34	....	....	....
18,618.18	....	36,454.91	54,796.75	627,011.33
5,260	134	4,053	9,447	452,557
827	39	728	1,594	73,628
98	2	97	197	12,813
6,185	175	4,878	11,238	538,998

STATEMENT "C"

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Acton	1,895	127	80 c.p. *s*	9.00	1,824.00	.96
		5	80 c.p. *s*	12.00		
		61	100 watt *m*	9.00		
		1	150 watt *m*	12.00		
		3	300 watt *m*	20.00		
Agincourt	....	58	100 watt *m*	13.00	750.04	**
Ailsa Craig	464	61	100 watt *m*	10.00	620.50	1.34
		1	200 watt *m*	18.00		
Alexandria	2,340	95	100 watt *m*	17.00	2,640.00	1.13
		41	200 watt *m*	25.00		
Alliston	1,379	102	100 c.p. *s*	18.00	2,070.00	1.50
		13	100 watt *m*	18.00		
Alvinston	690	84	100 watt *m*	20.00	1,854.00	2.69
		6	200 watt *m*	29.00		
Amherstburg	3,086	81	100 c.p. *s*	15.00	2,270.22	††
		9	250 c.p. *s*	30.00		
		23	200 watt *m*	20.00		
		12	300 watt *m*	30.00		
Ancaster Twp.	....	32	100 watt *m*	12.50	1,135.00	**
		49	150 watt *m*	15.00		
Apple Hill	....	33	100 watt *m*	17.00	559.75	**
Arkona	416	48	100 watt *m*	20.00	960.00	2.31
Arthur	1,037	92	100 watt *m*	19.00	1,748.00	1.69
Athens	582	40	100 watt *m*	14.00	1,250.00	2.15
		23	200 watt *m*	30.00		
Aylmer	1,989	168	100 watt *m*	10.00	2,320.00	1.17
		24	300 watt *m*	25.00		
		1	Traffic Light	40.00		
Ayr	768	92	100 watt *m*	10.00	1,028.00	1.34
		3	500 watt *m*	36.00		
Baden	....	65	100 watt *m*	10.00	650.00	**
Barrie	7,455	464	100 c.p. *s*	9.00	5,961.25	.80
		15	100 watt *m*	17.00		
		41	200 watt *m*	22.00		
		23	300 watt *m*	25.00		
Bath	350	21	100 watt *m*	34.00	714.00	2.04
Beachville	....	47	100 watt *m*	11.00	517.00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Beaverton	960	9	100 watt *m*	7.00	1,286.52	1.34
		104	100 watt *m*	10.00		
		6	500 watt *m*	30.00		
Beeton	584	65	150 c.p. *s*	15.00	1,185.00	2.03
		14	100 watt *m*	15.00		
Belle River	746	63	100 watt *m*	11.00	693.00	.93
Belleville	14,059	542	100 c.p. *s*	9.00	11,655.86	.83
		22	400 c.p. *s*	28.00		
		52	1,000 c.p. *s*	52.00		
		103	300 watt *m*	33.00		
Blenheim	1,690	163	150 c.p. *s*	12.00	2,500.00	††
		3	400 c.p. *s*	28.00		
		12	600 c.p. *s*	37.00		
			Traffic Light *m*	16.00		
Bloomfield	614	60	80 c.p. *s*	12.00	720.00	1.17
Blyth	602	100	100 watt *m*	13.00	1,300.00	2.16
Bolton	593	45	100 watt *m*	13.00	1,113.99	1.88
		23	200 watt *m*	23.00		
Bothwell	646	66	100 watt *m*	11.00	1,293 00	2.00
		21	300 watt *m*	27.00		
Bowmanville	3,641	171	80 c.p. *s*	14.00	4,057.17	1.11
		4	150 watt *m*	27.00		
		42	300 watt *m*	37 00		
Bradford	1,009	60	80 c.p. *s*	19.00	1,273.00	1.26
		7	100 watt *m*	19.00		
Brampton	5,413	659	100 watt *m*	8.00	5,426.50	1.00
		2	500 watt *m*	35.00		
		13	Fire Alarm	6.50		
Brantford	30,724	149	1,500 c.p. *s*	45.00	34,414.16	††
		3,501	100 watt *m*	7.50		
		10	150 watt *m*	8.50		
		12	200 watt *m*	11.00		
		2	300 watt *m*	16.00		
		2	500 watt *m*	45.00		
		20	750 watt *m*	46.00		
Brantford Twp.	....	369	100 watt *m*	11.00	4,250.50	**
Brechin	‡	32	100 watt *m*	18.00	576.00	**
Bridgeport	....	58	100 watt *m*	10.00	580 00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.
‡Includes Mara and Thorah Townships.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps		Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
					$ c.	$ c.	$ c.
Brigden		41	60 watt	m	11.00	745.00	**
		21	100 watt	m	14.00		
Brighton	1,413	137	80 c.p.	s	12.00	1,644.00	1.16
Brockville	9,615	589	100 c.p.	s	11.00	8,772.50	.91
		15	1-Lt. stds.	m	17.00		
		35	3-Lt. stds.	m	21.00		
		49	5-Lt. stds.	m	24.00		
		6	300 watt	m	24.00		
Brussells	770	80	100 watt	m	12.00	1,284.00	1.67
		18	200 watt	m	18.00		
Burford		67	100 watt	m	11.00	737.04	**
Burgessville		24	100 watt	m	13.0	312.00	**
Caledonia	1,400	158	100 watt	m	8.00	1,546.98	1.10
		20	100 watt	m	9.50		
		8	100 watt	m	13.00		
Campbellville		19	100 watt	m	24.00	456.00	**
Cannington	851	61	100 watt	m	14.00	1,022.00	1.20
		3	300 watt	m	22.00		
		3	500 watt	m	32.00		
Cardinal	1,305	16	100 watt	m	15.00	1,066.00	.81
		41	200 watt	m	21.00		
Carleton Place	4,272	84	60 watt	m	12.00	4,385.00	1.03
		102	200 watt	m	18.00		
		67	300 watt	m	23.00		
Cayuga	705	85	100 watt	m	18.00	1,431.00	2.03
Chatham	16,223	35	150 c.p.	s	12.00	19,009.95	††
		715	150 c.p.	s	13.00		
		32	250 c.p.	s	16.00		
		75	600 c.p.	s	30.00		
		33	600 c.p.	s	31.00		
		136	1,000 c.p.	s	38.00		
		2	250 watt	m	24.00		
Chatsworth	272	41	100 watt	m	12.00	492.00	1.81
Chesley	1,789	114	150 c.p.	s	14.00	1,596.00	.89
Chesterville	950	86	100 watt	m	12.00	1,032.00	1.09
Chippawa	1,073	93	100 watt	m	12.00	1,096.00	1.02
Clifford	454	62	100 watt	m	14.00	862.17	1.90
Clinton	1,842	149	150 c.p.	s	11.00	1,987.02	1.08
		22	100 watt	m	11.00		
		1	500 watt	m	55.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Cobourg.......	5,619	387 4 18	100 c.p. *s* 250 c.p. *s* 500 watt *m*	12.00 23.00 47.50	5,584.04	.99
Colborne......	977	117	80 c.p. *s*	12.00	1,287.00	‡‡
Coldwater.....	626	6 47	60 watt *m* 100 watt *m*	9.00 11.00	571.00	.91
Collingwood...	5,788	422	100 c.p. *s*	8.00	3,013.33	.52
Comber.......	....	26	100 watt *m*	18.00	512.00	**
Cookstown....	....	56	150 c.p. *s*	18.00	1,008.00	**
Cottam.......	....	31	100 watt *m*	15.00	457.50	**
Courtright.....	348	43	100 watt *m*	18.00	774.00	2.22
Creemore......	587	59	100 watt *m*	12.00	673.63	1.15
Dashwood.....	....	41	100 watt *m*	11.00	451.00	**
Delaware......	....	22	100 watt *m*	12.00	264.00	**
Deseronto.....	1,418	128	100 c.p. *s*	14.00	1,791.96	1.26
Dorchester....	....	59	100 watt *m*	10.00	590.00	**
Drayton......	559	75	100 watt *m*	10.00	750.00	1.34
Dresden.......	1,488	130 15	100 c.p. *s* 50 watt *m*	13.00 4.56	1,758.36	1.18
Drumbo.......	....	39 1	100 watt *m* 250 watt *m*	13.00 31.00	522.50	**
Dublin........	....	50	100 watt *m*	15.00	750.00	**
Dundalk......	647	82	100 watt *m*	14.00	1,220.00	1.89
Dundas.......	5,138	285 16 27	100 watt *m* 200 watt *m* 300 watt *m*	12.00 16.00 37.00	5,388.00	1.05
Dunnville.....	3,615	247 27	150 c.p. *s* 1,000 c.p. *s*	11.00 45.00	3,941.88	1.09
Durham.......	1,800	105 6	150 c.p. *s* 400 c.p. *s*	17.00 25.00	1,935.00	1.08
Dutton........	761	111	100 watt *m*	9.00	999.37	1.31
East Windsor..	14,333	338 194	100 watt *m* 200 watt *m*	8.00 14.00	8,419.92	††

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.
‡‡11 months' operation.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
East York Twp.	....	1	60 watt *m*	7.80	19,637.45	**
		942	100 watt *m*	13.00		
		4	200 watt *m*	19.50		
		268	300 watt *m*	26.00		
		15	50 watt *m*	29.00		
Elmira........	2,642	190	100 watt *m*	9.00	1,834.00	.69
		8	200 watt *m*	12.00		
		1	500 watt *m*	28.00		
Elmvale.......	....	50	100 watt *m*	13.00	662.31	**
Elmwood......	....	23	150 watt *m*	23.00	529.00	**
Elora.........	1,144	81	100 watt *m*	14.00	1,674.00	1.46
		27	200 watt *m*	20.00		
Embro........	455	56	100 watt *m*	12.00	672.00	1.48
Erieau........	264	20	100 watt *m*	18.00	360.00	1.36
Essex.........	1,888	121	60 watt *m*	11.00	3,134.99	1.66
		29	100 watt *m*	11.00		
		4	200 watt *m*	22.00		
		61	300 watt *m*	24.00		
		1	500 watt *m*	30.00		
Etobicoke Twp.	....	965	100 watt *m*	13.50	13,415.13	**
		22	100 watt *m*	18.00		
Exeter........	1,622	167	100 watt *m*	9.50	1,998.94	1.23
		23	200 watt *m*	18.00		
Fergus........	2,559	140	100 watt *m*	14.00	2,915.04	1.14
		37	150 watt *m*	16.50		
Finch.........	383	38	100 watt *m*	15.00	502.50	1.31
Flesherton.....	491	2	60 watt *m*	6.00	621.00	1.26
		53	100 watt *m*	11.00		
		1	300 watt *m*	26.00		
Fonthill.......	862	71	100 watt *m*	15.00	1,065.00	1.24
Forest........	1,465	131	60 watt *m*	7.00	2,321.00	1.58
		123	100 watt *m*	11.00		
			Station Platform	51.00		
Fort William...	25,188	572	100 c.p. *s*	8.00	17,029.60	.68
		2	250 c.p. *s*	18.00		
		13	300 c.p. *s*	23.00		
		73	600 c.p. *s*	28.00		
		266	1,000 c.p. *s*	38.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Galt..........	14,036	972	100 c.p. *s*	9.00	21,384.00	1.52
		158	100 watt *m*	12.00		
		51	200 watt *m*	20.00		
		146	300 watt *m*	35.00		
		6	500 watt *m*	26.00		
Georgetown....	2,187	174	100 watt *m*	11.00	2,125.83	*
		16	100 watt *m*	13.00		
		1	300 watt *m*	19.00		
Glencoe.......	800	111	100 watt *m*	14.00	1,934.00	2.42
		19	200 watt *m*	20.00		
Goderich......	4,366	325	100 c.p. *s*	9.00	3,791.50	.87
		8	100 watt *m*	15.00		
		8	200 watt *m*	25.00		
		16	3-Lt. stds. *m*	35.00		
Grand Valley..	587	52	100 watt *m*	18.00	936.00	1.59
Granton.......	....	37	100 watt *m*	10.00	370.00	**
Gravenhurst...	1,830	135	80 c.p. *s*	10.00	2,096.24	1.15
		7	100 c.p. *s*	11.00		
		30	100 watt *m*	10.00		
		16	300 watt *m*	35.00		
Guelph........	20,754	12	50 watt *m*	4.00	18,499.79	.89
		6	60 watt *m*	4.00		
		1,351	100 watt *m*	10.00		
		173	200 watt *m*	12.50		
		34	300 watt *m*	18.75		
		9	500 watt *m*	25.00		
		53	500 watt, 220v *m*	34.00		
		1	Airport Beacon *m*	60.00		
Hagersville....	1,370	116	100 watt *m*	12.00	1,732.00	1.26
		17	300 watt *m*	20.00		
Hamilton......	154,701	10	40 watt *m*	4.50	123,449.34	.80
		96	50 watt *m*	6.00		
		8,270	100 watt *m*	7.50		
		7	100 watt *m*	12.00		
		1,166	200 watt *m*	11.00		
		8	300 watt *m*	18.00		
		28	300 watt *m*	26.00		
		94	300 watt *m*	32.00		
		5	300 watt *m*	34.00		
		480	500 watt *m*	32.00		
		596	500 watt *m*	37.00		
		65	750 watt *m*	55.00		
		3	Danger Sig. Stds.	28.00		
		2	Danger Sig. Stds.	70.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Part cost paid direct in the form of debenture charges.

*Includes Glen Williams.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps		Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
					$ c.	$ c.	$ c.
Hanover......	3,036	91	100 c.p.	*s*	27.00	3,488.16	1.15
		16	200 c.p.	*s*	32.00		
		5	100 watt	*m*	27.00		
		12	200 watt	*m*	32.00		
Harriston.....	1,293	82	150 c.p.	*s*	12.00	1,467.00	1.13
		4	100 watt	*m*	12.00		
		29	200 watt	*m*	15.00		
Harrow.......	926	1	100 watt	*m*	12.00	1,249.44	1.35
		75	200 watt	*m*	16.50		
Hastings......	707	59	100 watt	*m*	24.00	1,550.92	2.19
		2	100 watt	*m*	30.00		
		2	100 watt	*m*	39.00		
Havelock......	1,096	63	100 c.p.	*s*	16.00	1,508.00	1.38
		20	250 c.p.	*s*	25.00		
Hensall.......	719	83	100 watt	*m*	12.00	996.00	1.39
Hespeler.......	2,784	91	150 c.p.	*s*	11.00	2,965.00	1.07
		34	250 c.p.	*s*	16.00		
		15	400 c.p.	*s*	30.00		
		51	150 watt	*m*	10.00		
		10	300 watt	*m*	21.50		
		7	300 watt	*m*	35.00		
Highgate......	338	45	100 watt	*m*	11.00	568.00	1.68
		6	200 watt	*m*	17.00		
Holstein.......	....	14	100 watt	*m*	35.00	490.00	**
Humberstone..	2,265	104	100 watt	*m*	12.00	1,367.00	.60
		7	200 watt	*m*	17.00		
Huntsville.....	2,507	47	100 c.p.	*s*	14.00	2,675.00	1.07
		25	150 c.p.	*s*	18.00		
		28	250 c.p.	*s*	22.00		
		68	75 watt	*m*	10.00		
		118	60-75 watt	*m*			
			Per 1,000 w.		42.00		
Ingersoll......	5,296	13	100 c.p.	*s*	5.50	4,851.48	††
		310	100 c.p.	*s*	11.00		
		2	600 c.p.	*s*	28.00		
		2	1,000 c.p.	*s*	25.00		
		26	1,000 c.p.	*s*	35.00		
		11	300 watt	*m*	30.00		
Jarvis.........	504	70	100 watt	*m*	12.00	840.00	1.67

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps		Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
					$ c.	$ c.	$ c.
Kemptville....	1,227	90	100 watt	*m*	20.00	1,830.00	1.49
		1	250 w. Fl. light	*m*	30.00		
Kincardine....	2,429	151	150 c.p.	*s*	20.00	4,022.50	1.66
		56	100 watt	*m*	15.00		
		1	1,000 watt	*m*	85.00		
Kingston......	23,260	93	100 c.p.	*s*	15.00	25,486.08	1.10
		289	600 c.p.	*s*	40.00		
		243	600 c.p.	*s*	52.00		
Kingsville.....	2,286	113	150 c.p.	*s*	12.00	3,220.00	††
		25	250 c.p.	*s*	16.00		
		122	100 watt	*m*	12.00		
Kirkfield......	....	23	100 watt	*m*	20.00	460.00	**
Kitchener.....	31,443	47	16 c.p.	*s*	7.00	32,415.74	††
		2,031	80 c.p.	*s*	9.00		
		90	250 c.p.	*s*	13.00		
		18	1,000 c.p.	*s*	25.00		
		200	100 watt	*m*	9.00		
		436	200 watt	*m*	15.00		
		40	300 watt	*m*	17.50		
		109	500 watt	*m*	25.00		
Lakefield......	1,303	108	100 watt	*m*	17.00	1,836.00	1.41
Lambeth......	....	36	100 watt	*m*	12.00	459.00	**
		1	300 watt	*m*	27.00		
Lanark........	636	37	100 watt	*m*	16.00	592.00	.93
Lancaster.....	601	41	100 watt	*m*	36.50	1,496.50	2.49
La Salle.......	600	66	100 watt	*m*	15.00	577.50	.96
Leamington....	5,025	21	250 c.p.	*s*	16.00	5,456.34	††
		100	400 c.p.	*s*	20.00		
		4	600 c.p.	*s*	26.00		
		192	100 watt	*m*	15.00		
Lindsay.......	7,109	414	100 c.p.	*s*	15.00	8,172.90	1.15
		25	1,000 c.p.	*s*	70.00		
Listowel.......	2,665	162	60 watt	*m*	9.00	3,839.10	1.44
		118	100 watt	*m*	11.00		
		8	200 watt	*m*	25.00		
		26	300 watt	*m*	30.00		
		3	500 watt	*m*	35.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum,and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
London.......	73,173	8	150 c.p. *s*	10.00	54,028.74	††
		1,920	150 c.p. *s*	11.00		
		103	400 c.p. *s*	18.00		
		301	400 c.p. *s*	24.00		
		32	600 c.p. *s*	28.00		
		273	600 c.p. *s*	30.00		
		2	50 watt *m*	2.50		
		75	100 watt *m*	10.00		
		12	200 watt *m*	9.34		
		47	200 watt *m*	14.00		
		43	200 watt *m*	18.00		
		488	300 watt *m*	18.00		
		36	300 watt *m*	20.00		
		11	500 watt *m*	25.00		
		68	500 watt *m*	40.00		
London Twp...	....	68	100 watt *m*	12.00	832.50	**
		1	200 watt *m*	16.50		
Long Branch...	3,541	36	100 watt *m*	950	3,413.27	.96
		232	100 watt *m*	13.00		
Lucan.........	590	71	100 watt *m*	14.00	992.70	1.68
Lucknow......	1,082	73	100 watt *m*	21.00	1,522.50	1.41
Lynden.......	....	43	100 watt *m*	10.00	431.80	**
Madoc........	1,059	342	75 watt *m*	5.00	1,524.00	1.44
		7	150 watt *m*	6.00		
		1	300 watt *m*	12.00		
Markdale......	774	90	150 c.p. *s*	10.00	900.00	1.16
Markham.....	1,073	113	100 watt *m*	12.00	1,356.00	1.26
Marmora......	924	44	75 watt *m*	15.00	1,448.00	1.58
		24	100 watt *m*	17.00		
		19	150 watt *m*	20.00		
Martintown...	....	15	100 watt *m*	20.00	300.00	**
Maxville......	785	65	100 c.p. *s*	22.00	1,430.04	1.82
Meaford.......	2,707	180	150 c.p. *s*	12.00	3,219.19	1.19
		28	100 watt *m*	12.00		
		35	200 watt *m*	20.00		
Merlin........	....	43	100 watt *m*	16.00	688.00	**
Merritton.....	2,544	303	100 watt *m*	9.00	3,352.00	1.32
		25	300 watt *m*	25.00		
Midland.......	6,808	326	100 c.p. *s*	10.00	6,175.84	.91
		52	100 watt *m*	10.00		
		30	300 watt *m*	22.00		
		36	500 watt *m*	40.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Mildmay......	694	42	100 watt *m*	15.00	659.56	.95
		11	150 watt *m*	21.50		
Milton........	1,828	204	100 watt *m*	9.50	2,019.50	1.10
		3	300 watt *m*	30.00		
Milverton.....	1,004	95	100 watt *m*	9.00	999.00	1.00
		12	200 watt *m*	12.00		
Mimico.......	6,454	330	100 watt *m*	14.00	8,021.89	1.24
		91	200 watt *m*	21.50		
		47	300 watt *m*	28.00		
Mitchell.......	1,571	232	150 c.p. *s*	9.00	2,088.00	1.33
Moorefield.....	....	25	100 watt *m*	15.00	375.00	**
Mount Brydges.	....	50	100 watt *m*	10.00	500.00	**
Mount Forest..	1,821	117	150 c.p. *s*	12.00	2,370.00	1.30
		14	250 c.p. *s*	14.00		
		35	100 watt *m*	12.00		
Napanee......	3,014	142	80 c.p. *s*	16.00	4,473.94	1.48
		26	250 c.p. *s*	37.00		
		40	300 watt *m*	32.00		
		1	1,000 watt *m*	63.00		
Neustadt......	465	39	150 c.p. *s*	25.00	975.00	2.10
Newbury......	267	48	100 watt *m*	15.00	720.00	2.70
New Hamburg.	1,426	163	100 watt *m*	9.00	2,258.75	1.58
		61	200 watt *m*	12.00		
New Toronto..	7,280	221	75 watt *m*	15.00	8,913.96	1.22
		17	150 watt *m*	18.00		
		15	200 watt *m*	19.00		
		28	300 watt *m*	22.00		
		14	300 watt *m*	27.00		
		131	500 watt *m*	30.00		
		3	Intersection lights	28.00		
Niagara Falls..	18,507	805	100 c.p. *s*	11.00	28,392.66	1.53
		2	250 c.p. *s*	13.00		
		234	600 c.p. *s*	40.00		
		197	1,000 c.p. *s*	45.00		
		4	100 watt *m*	11.00		
Niagara-on-the Lake........	1,672	219	100 watt *m*	11.00	2,833.31	1.66
		25	200 watt *m*	18.00		
Nipigon.......	....	34	100 watt *m*	15.00	510.00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
North York Twp.	....	81	100 watt *m*	12.00	3,675.61	**
		20	100 watt *m*	13.00		
		32	100 watt *m*	13.50		
		12	100 watt *m*	15.00		
		10	100 watt *m*	16.50		
		65	200 watt *m*	23.00		
		1	400 w. Fl. light *m*	31.00		
		2	1,000 w. Fl light *m*	65.00		
		1	Safety Lamp	8.00		
		1	Safety Lamp	30.00		
		1	Police Sign	12.00		
Norwich	1,126	114	100 watt *m*	10.00	2,120.00	1.97
		28	400 watt *m*	35.00		
Norwood	727	78	100 c.p. *s*	18.00	1,578.00	2.17
		6	100 c.p. *s*	20.00		
		1	100 c.p. *s*	27.00		
Oil Springs	433	40	100 watt *m*	18.00	750.00	1.73
		1	300 watt *m*	60.00		
Omemee	498	46	80 c.p. *s*	14.00	924.00	1.86
		2	100 watt *m*	12.50		
		10	250 watt *m*	28.00		
Orangeville	2,785	48	250 c.p. *s*	20.00	3,760.20	1.35
		99	150 c.p. *s*	15.00		
		38	300 watt *m*	35.00		
Oshawa	23,002	834	100 c.p. *s*	10.00	10,573.28	.46
		1	1,000 c.p. *s*	27.00		
		40	100 watt *m*	11.00		
		109	150 watt *m*	12.00		
		30	200 watt *m*	16.00		
Ottawa	130,672	618	100 c.p. *s*	6.00	72,933.23	.56
		389	100 c.p. *s*	7.00		
		789	400 c.p. *s*	25.00		
		813	600 c.p. *s*	35.00		
		59	Arc Lights *m*	45.00		
		2,940	100 watt *m*	48c. per ft.		
Otterville	....	54	100 watt *m*	11.00	780.51	**
		12	200 watt *m*	16.00		
Owen Sound	12,803	433	100 c.p. *s*	11.00	11,181.23	.87
		339	250 c.p. *s*	14.00		
		12	400 c.p. *s*	21.00		
		39	500 c.p. *s*	35.00		
Paisley	732	88	100 watt *m*	16.00	1,408.00	1.92

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Palmerston....	1,617	95	80 c.p. *s*	9.00	1,738.98	1.08
		7	100 c.p. *s*	10.00		
		4	250 c.p. *s*	25.00		
		1	40 watt *m*	9.00		
		10	60 watt *m*	9.00		
		2	100 watt *m*	10.00		
		14	150 watt *m*	10.00		
		2	250 watt *m*	25.00		
		15	300 watt *m*	25.00		
		1	500 watt *m*	35.00		
Paris.........	4,330	466	100 c.p. *s*	9.00	5,838.90	1.35
		10	400 c.p. *s*	32.00		
		25	500 c.p. *s*	40.00		
		2	60 watt *m*	7.00		
		2	100 watt *m*	9.00		
		6	500 watt *m*	35.00		
		2	500 watt *m*	40.00		
Parkhill.......	998	78	100 watt *m*	14.00	1,437.00	1.44
		15	200 watt *m*	23.00		
Penetanguishene	4,046	184	100 watt *m*	11.00	2,149.00	.53
		3	200 watt *m*	15.00		
		4	300 watt *m*	20.00		
Perth.........	3,994	70	100 c.p. *s*	15.00	2,066.00	.52
		12	250 c.p. *s*	25.00		
		7	400 c.p. *s*	28.00		
		13	600 c.p. *s*	40.00		
Peterborough..	22,809	115	400 c.p. *s*	43.00	19,518.00	.86
		215	60 watt *m*	9.00		
		362	100 watt *m*	10.00		
		501	300 watt *m*	18.00		
Petrolia.......	2,569	145	150 c.p. *s*	12.00	2,652.00	1.03
		24	600 c.p. *s*	38.00		
Picton........	3,217	222	100 c.p. *s*	12.00	4,364.04	1.36
		85	250 c.p. *s*	20.00		
Plattsville.....	....	34	100 watt *m*	13.00	442.00	**
Point Edward..	1,211	99	150 c.p. *s*	13.00	1,553.66	1.28
		15	250 c.p. *s*	20.00		
Port Arthur....	19,749	2,709	100 watt *m*	5.00	18,984.96	.96
		232	300 watt *m*	10.00		
		208	500 watt *m*	15.00		
Port Colborne..	6,006	15	400 c.p. *s*	23.00	7,825.80	††
		78	600 c.p. *s*	25.00		
		127	100 watt *m*	12.00		
		34	100 watt *m*	14.00		
		232	200 watt *m*	18.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system

††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Port Credit....	1,650	271	100 watt *m*	10.00	2,710.00	1.64
Port Dalhousie.	1,331	128 2	100 watt *m* 200 watt *m*	12.50 15.00	1,630.00	1.22
Port Dover....	1,680	178 19	100 watt *m* 300 watt *m*	12.00 20.00	2,964.17	1.76
Port Elgin.....	1,230	117 26	100 watt *m* 200 watt *m*	14.00 22.00	2,103.79	1.71
Port Hope.....	4,626	385	80 c.p. *s*	12.00	4,615.00	1.00
Port McNicoll..	928	47 17	100 watt *m* 200 watt *m*	12.50 20.00	927.50	1.00
Port Perry.....	1,130	100	100 watt *m*	15.00	1,500.00	....
Port Rowan...	674	53	100 watt *m*	24.00	1,242.00	1.84
Port Stanley...	723	182	100 watt *m*	11.00	2,003.16	2.77
Prescott.......	2,952	169 105	100 watt *m* 100 w. 2-Lt.Std. *m*	10.00 17.00	3,475.00	1.18
Preston.......	6,138	345 9 40 6	150 c.p. *s* 250 watt *m* 500 watt *m* 5-Lt. Stds.	10.00 18.00 30.00 30.00	4,986.96	.81
Priceville......	....	14	100 watt *m*	40.00	560.00	**
Princeton......	....	37	100 watt *m*	13.00	481.00	**
Queenston.....	....	36	100 watt *m*	16.00	456.10	**
Richmond.....	381	25	100 watt *m*	20.00	500.00	1.31
Richmond Hill.	1,270	99 17 6	75 watt *m* 100 watt *m* 200 watt *m*	11.00 12.00 16.00	1,389.00	1.09
Ridgetown.....	1,942	186 1 73 2 19	150 c.p. *s* 1,000 c.p. *s* 100 watt *m* 200 watt *m* 500 watt *m*	9.00 40.00 9.00 30.00 36.00	3,115.00	††
Ripley........	451	43 6	100 watt *m* 200 watt *m*	24.00 39.00	1,266.00	2.81
Riverside......	5,125	95 24	100 watt *m* 150 watt *m*	11.00 14.50	2,919.72	††
Rockwood.....	....	85	100 watt *m*	9.00	765.00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Rodney.......	757	78	100 watt *m*	10.00	1,032.02	1.36
		14	200 watt *m*	18.00		
Rosseau.......	251	35	100 watt *m*	35.42	1,240.00	4.94
Russell........	....	46	100 watt *m*	16.00	736.00	**
St. Catharines..	26,192	2,695	100 watt *m*	7.50	20,524.24	††
St. George.....	....	39	100 watt *m*	9.50	370.50	**
St. Jacobs.....	....	46	100 watt *m*	10.00	460.00	**
St. Marys.....	4,016	224	100 c.p. *s*	9.00	4,096.75	1.02
		105	250 c.p. *s*	14.00		
		20	150 watt *m*	9.00		
		32	300 watt *m*	14.00		
St. Thomas....	16,275	1,065	100 c.p. *s*	9.00	14,604.46	††
		28	250 c.p. *s*	13.00		
		1	600 c.p. *s*	32.00		
		114	600 c.p. *s*	34.00		
		6	60 watt *m*	4.50		
		22	300 watt *m*	22.00		
*Sandwich.....	11,017	272	100 c.p. *s*	12.00	9,874.46	††
		303	100 c.p. *s*	13.00		
		71	400 c.p. *s*	26.00		
		31	400 c.p. *s*	28.00		
		10	100 watt *m*	12.00		
		33	200 watt *m*	21.00		
Sarnia.........	17.801	1,024	150 c.p. *s*	12.00	18,456.98	††
		56	250 c.p. *s*	16.50		
		65	400 c.p. *s*	22.00		
		79	600 c.p. *s*	35.00		
		13	600 c.p. *s*	45.00		
		3	100 watt *m*	12.00		
		8	150 watt *m*	16.50		
		14	300 watt *m*	32.00		
Scarboro Twp.	....	10	80 c.p. *s*	9.00	14,911.65	**
		216	80 c.p. *s*	12.00		
		2	150 c.p. *s*	17.00		
		19	40 watt *m*	12.00		
		2	60 watt *m*	18.00		
		25	100 watt *m*	9.00		
		409	100 watt *m*	12.00		
		7	200 watt *m*	17.00		
		10	200 watt *m*	21.00		
		154	300 watt *m*	14.50		
		153	300 watt *m*	24.00		
Seaforth.......	1,692	65	80 c.p. *s*	10.00	1,788.00	1.06
		58	100 c.p. *s*	11.00		
		20	300 watt *m*	25.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Part cost paid direct in the form of debenture charges.

*11 months' operation.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Shelburne.....	1,064	96	100 watt *m*	10.00	960.00	.90
Simcoe........	5,397	272	100 c.p. *s*	11.00	4,527.48	††
		27	1,000 c.p. *s*	40.00		
		7	150 watt *m*	11.00		
		8	200 watt *m*	15.00		
		6	200 watt *m*	24.00		
		2	500 watt *m*	53.00		
		1	1,000 watt *m*	60.00		
Smiths Falls...	7,501	18	60 watt *m*	9.50	8,342.30	1.11
		105	100 watt *m*	18.00		
		1	200 watt *m*	25.00		
		254	300 watt *m*	25.00		
Southampton..	1,520	39	60 watt, Beach Lamps *m*	12.00	2,106.92	1.39
		104	100 watt *m*	13.00		
		30	250 watt *m*	21.00		
			Decorative Lights	36.00		
Springfield.....	379	50	100 watt *m*	11.00	550.00	1.45
Stamford Twp..	....	848	100 watt *m*	9.50	7,914.64	**
Stayner.......	1,042	75	150 c.p. *s*	12.00	1,224.00	1.17
		18	200 watt *m*	18.00		
Stirling........	865	120	100 c.p. *s*	12.00	1,433.00	1.66
Stouffville.....	1,105	124	100 watt *m*	14.00	1,764.00	1.60
Stratford......	18,869	861	100 c.p. *s*	10.00	16,539.00	.88
		74	600 c.p. *s*	25.00		
		116	600 c.p. *s*	30.00		
		6	600 c.p. *s*	35.00		
		62	1,000 c.p. *s*	34.00		
		4	100 watt *m*	10.00		
		4	500 watt *m*	34.00		
Strathroy......	2,879	298	100 c.p. *s*	9.00	4,075.71	1.42
		21	250 c.p. *s*	15.00		
		34	300 watt *m*	31.00		
Sunderland....	....	29	100 watt *m*	20.00	706.67	**
		4	500 watt *m*	35.00		
Sutton........	809	117	100 watt *m*	13.00	1,861.00	2.30
		15	200 watt *m*	17.00		
		16	100 w. strings *m*	13.00		
Tara..........	491	70	100 watt *m*	18.00	1,260.00	2.57
Tavistock.....	1,042	78	100 watt *m*	10.00	1,212.00	1.16
		36	200 watt *m*	12.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps		Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
					$ c.	$ c.	$ c.
Tecumseh.....	2,546	8	400 c.p.	*s*	21.00	960.00	††
		60	100 watt	*m*	12.00		
Teeswater.....	805	38	150 c.p.	*s*	19.00	1,402.00	1.74
		20	400 c.p.	*s*	34.00		
Thamesford....	....	47	100 watt	*m*	11.00	517.00	**
Thamesville....	754	67	100 watt	*m*	9.00	1,191.00	1.57
		33	200 watt	*m*	14.00		
		7	200 watt	*m*	18.00		
Thedford......	577	69	100 watt	*m*	15.00	1,035.00	1.79
Thorndale.....	....	32	100 watt	*m*	12.00	384.00	**
Thornton......	....	22	100 watt	*m*	40.00	880.00	**
Thorold.......	5,068	382	75 watt	*m*	7.50	3,551.00	.70
		40	100 watt	*m*	8.00		
		28	200 watt	*m*	12.00		
		2	300 watt	*m*	15.00		
Tilbury.......	1,996	100	100 watt	*m*	11.00	1,580.22	.79
		25	200 watt	*m*	19.50		
Tillsonsburg...	3,351	264	100 c.p.	*s*	8.50	4,336.51	1.29
		1	250 c.p.	*s*	13.00		
		8	300 watt	*m*	32.00		
		44	500 watt	*m*	42.00		
Toronto.......	626,674	46,327	100 watt	*m*	8.00–10.00	531,411.66	.85
		3,090	200 watt	*m*	18.00–23.00		
		67	250 watt	*m*	20.00		
		1,408	300 watt	*m*	28.00–30.00		
		153	500 watt	*m*	45.00		
		5	1,000 watt	*m*	90.00		
		364	100 w. 5-lt. stds.	*m*	47.50		
		391	300 w. 1-lt. stds.	*m*	50.00		
		68	500 w. 1-lt. stds.	*m*	47.50		
		75	500 w. 1-lt. stds.	*m*	52.50		
Toronto Twp...	....	411	100 watt	*m*	12.00	4,975.20	**
		1	Intersection Lt.		43.00		
Tottenham....	546	49	150 c.p.	*s*	25.00	1,225.08	2.24
Trenton.......	6,331	49	600 c.p.	*s*	75.00	8,076.00	1.28
		309	100 watt	*m*	14.00		
		1	500 watt	*m*	75.00		
Tweed........	1,247	125	100 c.p.	*s*	15.00	1,886.25	1.51
Uxbridge......	1,506	129	100 watt	*m*	13.00	1,743.00	1.16
		5	100 w. Pk. Lts.	*m*	10.00		
		1	200 watt	*m*	16.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.

††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Continued

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps		Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
					$ c.	$ c.	$ c.
Victoria Harbor	1,171	78	100 watt	*m*	9.00	702.00	.60
Walkerton.....	2,340	1	75 c.p.	*s*	6.00	2,369.55	1.01
		114	150 c.p.	*s*	12.50		
		38	300 c.p.	*s*	24.50		
Walkerville....	10,681	33	600 c.p.	*s*	45.00	11,739.96	††
		138	100 watt	*m*	8.00		
		332	150 watt	*m*	11.00		
		63	200 watt	*m*	13.00		
		110	300 watt	*m*	18.00		
Wallaceburg...	4,343	186	150 c.p.	*s*	12.00	4,167.00	.96
		12	400 c.p.	*s*	22.00		
		50	300 watt	*m*	33.00		
Wardsville.....	214	35	75 watt	*m*	20.00	700.00	3.27
Warkworth....	....	34	100 watt	*m*	18.00	643.75	**
		2	200 watt	*m*	30.00		
Waterdown....	924	74	100 watt	*m*	11.00	901.50	.97
		5	200 watt	*m*	17.50		
Waterford.....	1,168	157	100 watt	*m*	8.00	1,608.00	1.38
		9	200 watt	*m*	20.00		
		3	500 watt	*m*	35.00		
Waterloo......	8,563	339	80 c.p.	*s*	8.00	7,499.04	.88
		120	100 c.p.	*s*	10.00		
		91	150 watt	*m*	10.00		
		5	200 watt	*m*	12.00		
		18	300 watt	*m*	21.00		
		3	500 watt	*m*	30.00		
		9	500 watt	*m*	35.00		
		10	3-Lt. Stds.	*m*	25.00		
		44	5-Lt. Stds.	*m*	36.00		
Watford.......	956	90	100 watt	*m*	12.50	1,344.96	1.41
		11	200 watt	*m*	20.00		
Waubaushene..	....	45	100 watt	*m*	9.00	405.00	**
Welland.......	10,668	178	400 c.p.	*s*	30.00	10,559.01	††
		420	100 watt	*m*	11.00		
		30	200 watt	*m*	18.00		
		12	300 watt	*m*	30.00		
		4	500 watt	*m*	28.00		
Wellesley......	....	60	100 watt	*m*	12.00	720.00	**
Wellington....	900	46	100 c.p.	*s*	12.00	1,160.04	1.29
		32	150 c.p.	*s*	19.00		
est Lorne....	814	83	100 watt	*m*	10.00	1,010.00	1.24
		10	200 watt	*m*	18.00		

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "C"—Concluded

Street Lighting Installation in Hydro Municipalities, December 31, 1933, showing Rate per Lamp, Cost to Municipality per Annum, and Cost per Capita.

Municipality	Population	Number of lamps	Size and style of lamps	Rate per lamp per annum	Total cost to municipality per annum	Cost per capita
				$ c.	$ c.	$ c.
Weston........	4,736	456	100 c.p. *s*	7.50	7,610.13	1.61
		2	250 c.p. *s*	10.00		
		113	600 c.p. *s*	30.00		
		20	300 watt *m*	11.00		
		5	5-Lt. Stds. *m*	21.00		
		2	Electric Signs *m*	110.00		
Westport......	733	60	100 watt *m*	28.00	1,705.00	2.33
Wheatley......	724	62	100 watt *m*	12.00	1,355.25	1.87
		37	150 watt *m*	15.00		
Whitby.......	5,294	126	80 c.p. *s*	10.00	3,716.43	.70
		66	100 c.p. *s*	11.00		
		163	100 watt *m*	8.50		
		3	500 watt *m*	12.50		
Wiarton.......	1,911	100	100 watt *m*	16.00	2,300.00	1.20
		25	200 watt *m*	28.00		
Williamsburg...	....	16	100 watt *m*	12.00	192.00	**
Winchester....	963	118	100 watt *m*	9.00	1,062.00	1.10
Windermere...	135	13	100 watt *m*	35.00	455.00	3.37
Windsor.......	65,565	2,902	100 c.p. *s*	11.50	76,109.88	††
		11	250 c.p. *s*	17.50		
		976	400 c.p. *s*	27.50		
		703	600 c.p. *s*	36.00		
		66	1,000 c.p. *s*	46.00		
Wingham......	1,842	101	100 c.p. *s*	19.00	3,423.00	1.86
		25	200 c.p. *s*	32.00		
		22	200 watt *m*	32.00		
Woodbridge...	744	90	100 watt *m*	10.00	900.00	1.21
Woodstock....	10,956	536	100 c.p. *s*	8.00	8,013.40	.73
		13	250 c.p. *s*	20.00		
		90	75 watt *m*	8.00		
		25	150 watt *m*	12.00		
		75	300 watt *m*	32.00		
		1	250 w. Floodlight	12.00		
Woodville.....	414	36	100 watt *m*	12.00	532.00	1.28
		5	200 watt *m*	20.00		
Wyoming......	482	51	100 watt *m*	15.00	765.00	1.59
Zurich........	....	63	100 watt *m*	11.00	693.00	**

**Population not shown in Government statistics. *s* Series system. *m* Multiple system.
††Part cost paid direct in the form of debenture charges.

STATEMENT "D"

(pages 406 to 423)

Statistics Relating to the Supply of Electrical Energy to Consumers
by Individual Ontario Municipalities Served by the
Hydro-Electric Power Commission
for the year 1933

STATEMENT "E"

(pages 424 to 439)

Cost of Power to Municipalities and Rates to Consumers for Domestic
Service — Commercial Light Service — Power Service in
Ontario Urban Municipalities Served by the
Hydro-Electric Power Commission
for the year 1933

STATEMENT "D"

Statistics Relating to the Supply of Electrical Energy to Consumers in Ontario Municipalities Served by The Hydro-Electric Power Commission

The following tabulation of various statistical data relating to the supply of electrical energy to consumers by individual municipalities receiving power at cost from the Commission sets forth, regarding the results of operation from the standpoint of the consumers, much useful and interesting information.

The policy and practice of the Commission has been, and is, to make as widespread and beneficial a distribution of electrical energy as possible, and to extend to every community that can economically be reached by transmission lines, the benefit of electrical service. Even where, in certain localities, by reason of the distance from a source of supply or of the smallness of the quantity of power required by the municipality, the cost per horsepower to the municipality—and, consequently, the cost of service to the consumer—must unavoidably be higher than in more favourably situated communities, service has not been withheld when the consumers were able and willing to pay the cost.

The accompanying diagram summarizes graphically certain data of Statement "D," respecting the average cost to the consumer. It will be observed that the total amount of the energy sold in municipalities where circumstances necessitate rates which result in the higher average costs to the consumer is relatively insignificant. With respect to power service, it should be noted that the statistics of Statement "D," and of the diagram, cover mainly retail power service supplied to the smaller industrial consumers. The average amount of power taken by the industrial consumers served by the municipalities is about 40 horsepower. The Commission serves certain large power consumers direct on behalf of the various systems of municipalities.

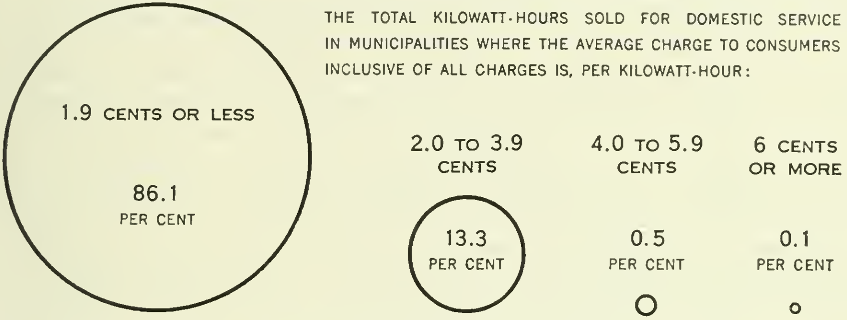
It should be kept in mind that the revenues reported in Statement "D," and used for purposes of calculating the net unit costs to the consumer, are the total revenues contributed by the consumers, and included, in addition to the cost of power, sums specifically applicable to the retirement of capital, and also operating surplus which is in part applied to retirement of capital or extension of plant and is in part returned in cash to the consumers.

It should specially be noted that average costs per kilowatt-hour or per horsepower if employed indiscriminately as a criterion by means of which to compare the rates or prices for electrical service in various municipalities, will give very misleading results. The average costs per kilowatt-hour, as given in Statement "D" for respective classes of service in each municipality, are simply statistical results obtained by dividing the respective revenues by the aggregate kilowatt-hours sold. As such, the data reflect the combined influence of a number of factors, of which the rates or prices to consumers are but one factor. Owing to the varying influence of factors other than the rates, it is seldom found that in any two municipalities the average cost per kilowatt-hour to the consumers, even of the same classification, is in proportion to the respective rates for service. Instances even occur where for a class of consumers in one municipality, the average costs per kilowatt-hour are substantially lower than for the same class in another municipality, even though the rates are higher.

COST OF ELECTRICAL SERVICE
IN MUNICIPALITIES SERVED BY THE
HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

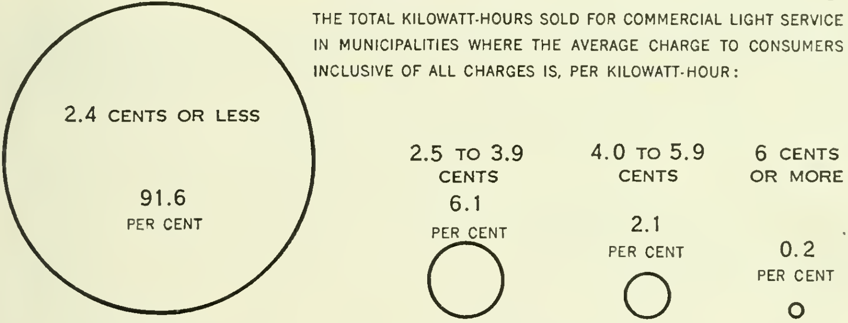
DOMESTIC SERVICE

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE TOTAL KILOWATT-HOURS SOLD FOR DOMESTIC SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER KILOWATT-HOUR:



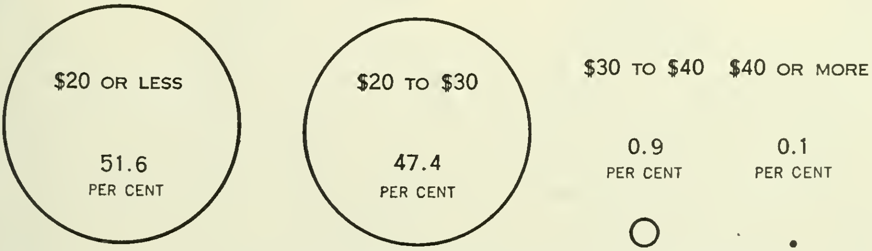
COMMERCIAL LIGHT SERVICE

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE TOTAL KILOWATT-HOURS SOLD FOR COMMERCIAL LIGHT SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER KILOWATT-HOUR:



POWER SERVICE SUPPLIED BY MUNICIPALITIES

THE AREAS OF THE CIRCLES REPRESENT PROPORTIONATELY THE AGGREGATE HORSEPOWER SOLD FOR POWER SERVICE IN MUNICIPALITIES WHERE THE AVERAGE CHARGE TO CONSUMERS INCLUSIVE OF ALL CHARGES IS, PER HORSEPOWER PER YEAR:



With respect to domestic service, for example, instances will be observed where two municipalities have identical prices or rates for domestic service, but the average cost per kilowatt-hour to the consumer varies by as much as 100 per cent. Such variations are principally due to differences in the extent of utilization of the service for the operation of electric ranges, water heaters and other appliances, an indication of which is afforded by the statistics of average monthly consumption.

In the case of power service, average unit costs are still less reliable as an indication of the relative rates for service in different municipalities. In the case of hydro-electric power supplied to industries at cost, the rate schedules incorporate charges both for demand and for energy consumption, and thus, although the quantity of power taken by a consumer—that is, the demand as measured in horsepower—is the most important factor affecting costs and revenues, it is not the only one. The number of hours the power is used in the month or year—which, in conjunction with the power, determines the energy consumption, as measured in kilowatt-hours—also affects the costs and revenues. Consequently, in two municipalities charging the same rates for power service, the average cost per horsepower to the consumer will vary in accordance with the consumers' average number of hours' use of the power per month. A greater average energy consumption per horsepower increases the average cost per horsepower and decreases the average cost per kilowatt-hour, to the consumer, and *vice versa.**

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*In view of the fact that the data of Statement "D" have been misinterpreted in the making of certain comparisons as to the cost of electricity in various territories, it is desirable to add a word of caution respecting their significance. Essentially, the average cost or revenue per kilowatt-hour is *not a criterion of rates* even with similar forms of rate schedules and for the same class of service. Particularly is this true when revenues and consumptions of all classes of service, and of all kinds of rate schedules, are indiscriminately lumped together in order to deduce a so-called "average cost or rate per kilowatt-hour" for all services.

In one community rates for each class of service, and the cost to every consumer in each class for any given service and consumption, may be substantially higher than in another community, and yet there may be in the former community, a lower "average revenue per kilowatt-hour." This will readily be perceived from a simple arithmetical example.

Example.—Assume sales of electrical energy by two electric utilities, A and B, in each case 10,000,000 kilowatt-hours.

Class of service	Case A Higher rates and lower revenues per kilowatt-hour			Case B Lower rates and higher revenues per kilowatt-hour		
	Energy sales	Rate per kw-hr.	Revenue	Energy sales	Rate per kw-hr.	Revenue
	kw-hr.	cents	$	kw-hr.	cents	$
Residence	1,000,000	4	40,000	3,000,000	3	90,000
Power	9,000,000	1	90,000	7,000,000	0.75	52,500
Total	10,000,000	......	130,000	10,000,000	......	142,500
Average revenue	1.3 cents per kw-hr.			1.425 cents per kw-hr.		

It will be observed that in Case A *the rates* both for residence and for power service are 33 per cent *higher* than in Case B, but the *average revenue* per kilowatt-hour is nearly 9 per cent less.

In this instance, the key to the situation lies in the *relative quantities* of energy sold to each class. Service to large power consumers entails a smaller capital investment in distribution lines and equipment and lower operating costs per kilowatt-hour delivered, than does service to domestic and to commercial light consumers, and even where the rates for all classes of service are low, produces a smaller average revenue per kilowatt-hour. Consequently, if one electrical utility as compared with another sells a larger proportion of its energy for power purposes, its "average revenue per kilowatt-hour" may easily be lower than that of the other utility even though its rates for every class of service are substantially higher.

Although the derived statistics of Statement "D" are valueless as a means of comparing the *rates* in one municipality with those in another, they nevertheless fulfil an important function in affording a general measure of the *economy of service* to consumers in the co-operating Ontario municipalities—an economy that has resulted primarily from the low rates themselves, and secondarily from the extensive use of the service that has been made economically possible by the low rates.

Actual bills rendered to typical consumers for similar service under closely comparable circumstances constitute the best basis for effecting comparisons. In researches respecting rates to consumers therefore the actual *rate schedules* of Statement "E" should be employed, and not statistics of average revenues per kilowatt-hour, as these are valueless for rate comparisons— and particularly so when all classifications of service are combined.

In any consideration of the relative economies of electrical service in the various municipalities—whether based on the actual rates for service as set forth in Statement "E," or on the derived statistics resulting from the rates and other factors as presented in Statement "D"—full account should be taken respectively, of the influence upon costs of such factors as the size of the municipality, the distance from the source of power, the features of the power developments from which service is received, the sizes and concentrations of adjacent markets for electricity, and the sizes and characters of the loads supplied under the various classifications by the local electrical utility to the ultimate consumers.

In Statement "D" account has been taken of the sizes of municipalities by grouping them according to whether they are (i) cities—over 10,000 population; (ii) towns of 2,000 to 10,000 population; or (iii) small towns (under 2,000 population), villages, and suburban areas in townships (which are comparable in respect of conditions of supply to the smaller towns and villages). The populations and the approximate transmission distances from the nearest of the generating stations supplying the system, are also given.

A feature of the electrical service in Ontario municipalities served by the Hydro-Electric Power Commission is the strikingly large average annual consumption per domestic consumer. There are in all about 204 Ontario municipalities where the average annual consumption per domestic consumer is in excess of 600 kilowatt-hours. Of the 84 cities and towns with populations of 2,000 or more—in which over 85 per cent of the domestic consumers of the undertaking are served—no less than 55 have an average annual consumption per domestic consumer in excess of 1,000 kilowatt-hours; of these, 24 have an average annual consumption per domestic consumer in excess of 1,500 kilowatt-hours, and 12 has an average annual consumption per domestic consumer in excess of 2,000 kilowatt-hours.

The high average consumption for domestic service results essentially from the policy of the undertaking in providing electrical service "at cost"; the rate schedules scientifically designed according to this principle automatically encourage liberal use of the service. Under the standard rate schedules employed by Ontario municipalities, follow-up rates of 1 cent and 1.25 cents (less 10 per cent) are in common use, and as a rule even where the higher initial rates per kilowatt-hour obtain, it is only necessary for the domestic consumer to reach a monthly charge of from $2.00 to $3.00 when he obtains the benefit of a follow-up rate of 1.8 cents net. The cost of electric cooking is thus within reach of most of the domestic consumers in Ontario.

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group I—CITIES

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Belleville	E.O.	14,059	13	76,682.94	4,480,695	3,004	124	2.13	1.7
Brantford	Nia.	30,724	79	184,129.33	12,549,426	7,384	142	2.08	1.5
Chatham	Nia.	16,223	193	79,868.02	3,954,467	3,730	88	1.79	2.0
East Windsor	Nia.	14,333	239	74,849.48	3,858,334	2,971	108	2.09	1.9
Fort William	T.B.	25,188	87	200,550.28	26,241,835	5,260	416	3.18	0.8
Galt	Nia.	14,036	92	103,490.42	5,239,609	3,584	122	2.41	2.0
Guelph	Nia.	20,754	75	103,446.51	5,951,356	5,008	99	1.72	1.7
Hamilton	Nia.	154,701	53	896,836.05	62,018,805	36,990	140	2.02	1.4
Kingston	E.O.	23,260	50	108,782.64	6,206,555	5,620	92	1.61	1.7
Kitchener	Nia.	31,443	95	193,447.44	12,000,857	7,117	141	2.26	1.6
London	Nia.	73,173	123	492,592.98	38,451,962	16,367	196	2.50	1.3
Niagara Falls	Nia.	18,507	1	138,423.29	10,682,660	4,329	205	2.66	1.3
Oshawa	E.O.	23,002	75	148,818.93	6,271,340	5,878	89	2.11	2.4
Ottawa	E.O.	130,672	1	421,647.54	46,682,599	12,491	311	2.81	0.9
Owen Sound	G.B.	12,803	32	60,161.55	3,251,412	3,257	83	1.54	1.8
Peterborough	E.O.	22,809	2	117,648.00	6,759,207	5,274	107	1.86	1.7
Port Arthur	T.B.	19,749	73	107,395.49	9,033,064	4,053	186	2.21	1.2
St. Catharines	Nia.	26,192	18	144,062.04	10,889,306	6,361	142	1.88	1.3
St. Thomas	Nia.	16,275	134	107,077.52	7,446,821	3,999	155	2.23	1.4
Sarnia	Nia.	17,801	205	104,443.09	5,272,151	4,546	97	1.91	2.0
Stratford	Nia.	18,869	119	146,586.63	8,598,840	4,293	167	2.85	1.7
Toronto	Nia.	626,674	78	3,716,238.53	257,462,995	155,397	138	1.99	1.4
Toronto D.C. and 60 cycle*	......	....	....	30,882.64	1,024,849	473	181	5.44	3.0
Welland	Nia.	10,668	14	49,514.12	2,854,317	2,271	104	1.81	1.7
Windsor	Nia.	65,565	238	503,381.88	28,919,146	14,605	165	2.87	1.7
Woodstock	Nia.	10,956	94	72,772.34	4,792,730	2,904	137	2.08	1.5

*This,—with the exception of a relatively small D.C. power load,—is a special service not created by the Hydro-Electric Power Commission but acquired through the purchase of a privately owned company. It does not include Street Railway power.

Group II—TOWNS

			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Alexandria	E.O.	2,340	30	7,390.51	142,505	295	40	2.06	5.2
Amherstburg	Nia.	3,086	257	19,006.20	941,411	586	134	2.70	2.0
Barrie	G.B.	7,455	48	52,465.38	2,842,145	2,011	118	2.17	1.8
Bowmanville	E.O.	3,641	66	30,135.04	909,815	1,045	73	2.40	3.3
Brampton	Nia.	5,413	78	36,818.92	2,446,795	1,369	149	2.24	1.5
Brockville	E.O.	9,615	62	45,903.86	2,551,564	2,541	84	1.50	1.8
Carleton Place	E.O.	4,272	47	18,946.89	580,718	938	51	1.68	3.3
Cobourg	E.O.	5,619	36	30,913.56	1,171,334	1,114	80	2.31	2.6
Collingwood	G.B.	5,788	24	26,122.58	1,351,188	1,420	79	1.53	1.9
Dundas	Nia.	5,138	52	20,753.93	1,135,186	1,219	78	1.42	1.8
Dunnville	Nia.	3,615	37	13,505.31	563,521	766	61	1.47	2.4
Elmira	Nia.	2,642	107	15,672.17	739,162	505	122	2.59	2.1

"D"

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

Population, 10,000 or more

Commercial light service						Power service			Total number of con-sumers
Revenue	Consumption	Number of con-sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con-sumers	Average monthly horse-power	
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
48,107.35	2,191,975	555	329	7.22	2.2	42,238.63	90	2,233.4	3,649
62,992.72	5,062,304	1,124	375	4.67	1.2	†111,136.76	137	5,719.0	8,645
67,913.97	3,419,066	716	398	7.90	2.0	51,652.55	98	2,590.0	4,544
16,038.88	676,534	266	212	5.02	2.4	30,604.10	33	1,353.7	3,270
61,130.12	3,138,070	827	316	6.16	1.9	66,554.90	98	3,357.7	6,185
41,981.08	1,994,929	484	343	7.23	2.1	76,929.00	118	4,093.0	4,186
49,053.55	3,042,237	760	334	5.38	1.6	107,211.30	130	6,512.6	5,898
346,737.41	26,133,920	5,068	429	5.70	1.4	1,507,849.98	1,265	90,824.0	43,323
72,441.72	3,711,022	878	352	6.88	1.9	98,270.00	143	4,966.9	6,641
98,357.80	5,624,041	956	490	8.57	1.7	218,113.24	239	11,192.5	8,312
188,474.27	12,978,258	2,839	381	5.53	1.5	366,026.51	486	18,603.3	19,692
55,590.67	4,542,713	669	566	6.92	1.2	64,685.93	87	3,761.8	5,085
57,042.47	2,041,158	510	333	9.32	2.8	140,414.56	98	6,652.8	6,486
159,028.96	9,526,539	1,382	574	9.59	1.7	84,466.65	214	5,169.4	14,087
33,647.11	1,764,274	576	255	4.87	1.9	37,592.84	115	2,245.9	3,948
57,718.24	2,877,655	774	310	6.21	2.0	79,842.69	155	4,456.2	6,203
51,764.78	3,397,764	728	389	5.94	1.5	770,158.02	97	40,514.3	4,878
47,684.43	3,231,380	710	379	5.59	1.4	86,508.23	152	5,735.7	7,223
46,670.29	2,982,692	635	391	6.11	1.5	48,533.53	80	2,762.2	4,714
45,760.80	2,425,507	610	331	6.25	1.9	167,781.48	85	5,909.0	5,241
51,772.30	2,224,650	614	302	7.03	2.3	63,630.39	132	2,740.5	5,039
2,728,154.69	116,324,822	24,917	390	9.15	2.3	3,084,475.84	4,224	132,164.0	184,538
145,546.43	3,592,266	1,063	282	11.41	4.0	426,393.54	873	15,350.0	2,409
28,463.15	1,607,464	438	306	5.41	1.7	63,124.79	83	2,999.0	2,792
225,233.06	12,473,442	2,263	459	8.29	1.8	182,012.52	318	8,462.6	17,186
37,336.87	2,268,922	443	426	7.02	1.6	49,203.73	86	3,175.0	3,433

NOTE—The above group of 25 cities utilizes about 80 per cent of the power distributed by the Commission to Ontario municipalities.

†includes only 25-cycle data.

of Population 2,000 or more

$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
4,173.80	87,448	92	79	3.78	4.8	4,809.31	14	151.9	401
6,657.90	296,952	124	200	4.47	2.2	5,375.25	15	203.5	725
29,741.26	1,380,295	407	283	6.09	2.1	16,400.57	45	952.6	2,463
10,239.80	248,162	173	119	4.93	4.1	40,064.74	29	1,379.1	1,247
16,148.10	856,727	232	308	5.80	1.9	17,621.79	54	1,056.0	1,655
25,015.27	1,388,404	438	264	4.76	1.8	36,024.42	67	1,733.4	3,046
9,355.65	289,992	178	136	4.38	3.2	25,734.29	18	1,069.5	1,134
18,424.66	590,218	141	349	10.89	3.1	27,944.22	45	1,342.2	1,300
9,951.70	421,464	269	131	3.08	2.4	18,238.35	53	1,101.9	1,742
10,660.40	560,911	193	242	4.60	1.9	17,171.79	40	1,256.8	1,452
11,480.33	511,583	199	215	4.80	2.2	13,840.45	34	786.8	999
5,681.70	183,793	115	133	4.12	3.1	4,426.95	22	258.7	642

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group II—TOWNS

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Fergus	Nia.	2,559	94	15,720.00	580,509	618	78	2.12	2.7
Georgetown	Nia.	2,187	100	14,067.98	735,791	668	92	1.75	1.9
Goderich	Nia.	4,366	167	29,614.29	1,284,287	1,155	93	2.14	2.3
Hanover	G.B.	3,036	35	18,407.63	752,155	726	87	2.11	2.4
Hespeler	Nia.	2,784	90	18,265.53	800,474	700	97	2.17	2.3
Humberstone	Nia.	2,265	22	8,447.65	341,382	500	57	1.42	2.5
Huntsville	G.B.	2,507	26	10,973.86	446,295	556	67	1.64	2.4
Ingersoll	Nia.	5,296	104	31,581.32	1,845,302	1,265	121	2.08	1.7
Kincardine	G.B.	2,429	69	13,824.32	392,806	596	55	1.93	3.5
Kingsville	Nia.	2,286	255	14,073.03	579,214	706	68	1.66	2.4
Leamington	Nia.	5,025	263	25,306.03	1,133,758	1,324	71	1.59	2.2
Lindsay	E.O.	7,109	19	37,863.94	1,531,976	1,830	70	1.72	2.5
Listowel	Nia.	2,665	154	17,878.49	866,949	726	100	2.05	2.0
Long Branch	Nia.	3,541	73	23,463.32	1,213,753	899	117	1.12	1.9
Meaford	G.B.	2,707	23	12,262.19	419,545	638	55	1.60	2.4
Merritton	Nia.	2,544	16	11,558.62	640,363	700	76	1.38	1.8
Midland	G.B.	6,808	25	35,287 78	2,132,840	1,564	114	1.88	1.6
Mimico	Nia.	6,454	75	54,604.89	3,432,610	1,760	162	2.58	1.6
Napanee	E.O.	3,014	19	26,679.48	1,192,049	770	129	2.89	2.2
New Toronto	Nia.	7,280	76	32,307.33	2,052,693	1,434	119	1.87	1.6
Orangeville	G.B.	2,785	47	14,312.27	624,763	654	80	1.82	2.3
Paris	Nia.	4,330	76	22,861.22	1,375,971	1,060	108	1.80	1.7
Penetanguishene	G.B.	4,046	29	11,560.03	563,514	599	78	1.61	2.1
Perth	E.O.	3,994	21	22,755.27	1,048,103	934	93	2.03	2.2
Petrolia	Nia.	2,569	231	11,576.04	462,824	667	58	1.45	2.5
Picton	E.O.	3,217	33	21,579.51	1,084,382	997	91	1.80	2.0
Port Colborne	Nia.	6,006	21	27,055.82	1,280,190	1,249	85	1.80	2.1
Port Hope	E.O.	4,626	43	29,372.14	1,021,142	1,238	69	1.98	2.9
Prescott	E.O.	2,952	48	15,796.30	1,022,957	655	130	2.01	1.5
Preston	Nia.	6,138	86	40,489.55	2,186,917	1,552	117	2.17	1.9
Riverside	Nia.	5,125	243	38,813.62	1,844,170	1,081	142	2.99	2.1
St. Marys	Nia.	4,016	133	28,360.01	1,313,400	1,034	106	2.29	2.3
Sandwich	Nia.	11,017	245	88,361.44	5.181,094	2,392	181	3.08	1.7
Simcoe	Nia.	5,397	103	20,283.75	1,038,930	1,144	75	1.47	1.9
Smiths Falls	E.O.	7,501	38	41,684.74	1,751,043	1,640	89	2.12	2.4
Strathroy	Nia.	2,879	150	20,207.78	1,025,736	802	107	2.10	2.0
Tecumseh	Nia.	2,546	246	14.603.68	498,439	506	82	2.40	2.9
Thorold	Nia.	5,068	9	18,732.14	996,014	1,165	71	1.34	1.9
Tilsonburg	Nia.	3,351	116	14,962.86	755,006	887	71	1.41	2.0
Trenton	E.O.	6,331	1	28,302.03	1,083,612	1,251	72	1.89	2.6
Walkerton	G.B	2,340	1	15,041.12	530,827	535	83	2.34	2.8
Walkerville	Nia.	10,681	239	104,317.38	6,695,624	2,367	235	3.68	1.6
Wallaceburg	Nia.	4,343	211	18,859.03	795,491	1,020	65	1.54	2.3
Waterloo	Nia.	8,563	96	58,827.49	3,599,007	1,850	162	2.64	1.6
Weston	Nia.	4,736	80	39,599.41	3,021,758	1,248	202	2.64	1.3
Whitby	E.O.	5,294	80	19,548.69	1,015,241	833	102	1.96	2.0

"D"—Continued

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933
of Population, 2,000 or more

Commercial light service						Power service			Total number of consumers
Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of consumers	Average monthly horse-power	
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
6,278.16	192,403	116	138	4.51	3.4	8,414.66	13	291.6	747
6,022.90	280,581	132	177	3.80	2.1	22,697.17	27	1,045.4	827
13,509.59	502,582	237	177	4.75	2.7	14,069.81	20	710.5	1,412
6,627.47	217,378	119	152	4.64	3.1	17,994.07	20	652.0	865
4,916.32	140,481	108	108	3.80	3.5	36,225.41	28	1,659.3	836
2,998.76	166,532	64	217	3.90	1.8	3,912.05	7	144.2	571
7,418.16	346,312	123	235	5.02	2.1	12,915.00	9	770.1	688
14,380.17	746,151	234	268	5.12	1.9	25,712.99	44	1,338.0	1,543
6,956.57	201,594	120	140	4.83	3.5	10,503.43	19	456.1	735
6,544.89	236,476	174	113	3.13	2.7	4,573.33	14	183.5	894
13,751.06	627,629	255	205	4.49	2.2	16,248.31	26	740.2	1,605
22,212.24	958,843	334	239	5.54	2.3	26,269.79	76	1,370.7	2,240
7,947.24	327,287	152	179	4.36	2.4	12,973.31	21	551.6	899
5,270.04	268,229	68	329	6.46	1.9	1,773.57	3	76.0	970
6,475.28	206,643	138	125	3.91	3.1	4,640.42	17	236.0	793
2,241.79	105,960	60	147	3.11	2.1	59,639.69	11	2,880.6	771
13,714.77	725,241	227	266	5.03	1.9	50,474.56	55	3,869.0	1,846
9,519.99	476,217	138	287	5.75	1.9	11,178.17	15	515.5	1,913
13,744.34	437,031	190	192	6.03	3.1	13,692.61	35	593.0	995
12,113.15	770,832	151	425	6.67	1.6	106,700.56	34	4,905.1	1,619
8,697.09	323,886	161	168	4.51	2.7	8,191.35	27	398.4	842
8,245.31	412,877	180	191	3.82	2.0	13,598.70	27	756.0	1,267
4,471.57	150,759	99	127	3.76	3.0	11,933.01	27	522.9	725
15,109.94	531,939	192	231	6.56	2.8	18,203.77	25	779.8	1,151
6,517.41	232,923	167	116	3.25	2.8	21,684.65	55	696.0	889
12,218.11	513,444	204	210	4.99	2.4	8,629.85	38	443.6	1,239
11,314.48	594,497	224	221	4.20	1.9	13,333.77	25	479.6	1,498
11,563.02	371,886	203	153	4.75	3.1	24,269.55	45	1,006.2	1,486
8,332.02	436,596	155	235	4.48	1.9	3,234.08	19	298.8	829
15,920.17	710,312	237	250	5.60	2.2	33,653.36	57	1,973.9	1,846
4,275.26	154,530	47	272	7.58	2.8	9,656.93	8	318.6	1,136
9,291.65	415,053	195	177	3.97	2.2	16,858.30	37	688.4	1,266
16,649.87	916,467	210	364	6.61	1.8	12,067.13	26	688.3	2,628
24,148.61	1,343,186	306	365	6.57	1.8	25,728.64	38	1,004.3	1,488
15,246.98	590,941	257	192	4.94	2.6	16,759.14	44	672.7	1,941
9,754.05	404,799	173	195	4.70	2.4	10,820.29	25	530.0	1,000
3,171.42	103,195	47	182	5.62	3.1	1,322.34	3	61.3	556
6,486.84	433,716	191	189	2.83	1.5	29,477.83	16	1,664.9	1,372
11,687.36	564,839	223	211	4.37	2.1	11,655.79	30	612.9	1,140
17,524.57	574,659	220	218	6.64	3.0	68,244.24	48	2,457.9	1,519
7,683.67	243,059	134	151	4.78	3.1	4,919.61	17	183.6	686
29,322.93	1,301,720	317	342	7.70	2.2	127,701.63	94	6,146.8	2,778
10,687.00	431,371	223	161	3.99	2.4	51,316.49	29	1,664.0	1,272
20,814.44	985,419	249	330	6.96	2.1	27,564.82	77	1,713.7	2,176
9,376.18	493,183	179	230	4.37	1.9	32,572.96	30	1,701.4	1,457
9,555.38	363,740	158	192	5.04	2.6	16,502.07	21	668.2	1,012

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

NOTE—The power used in the smaller places and rural districts is, and possibly must always be, a relatively small proportion of the power distributed by the Commission. Thus; the power used by the small municipalities in the following group, which includes small towns, villages and certain suburban areas in townships, is less than 10 per cent of the power distributed by the Commission to Ontario municipalities. This relatively small proportion of the total power,

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Acton	Nia.	1,895	91	9,980.21	547,115	482	95	1.73	1.8
Agincourt	Nia.	P.V.	93	5,107.67	171,029	143	100	2.98	3.0
Ailsa Craig	Nia.	464	148	2,631.21	85,052	130	56	1.69	3.1
Alliston	G.B.	1,379	74	8,513.19	235,750	351	56	2.02	3.6
Alvinston	Nia.	696	267	3,991.86	59,382	151	33	2.20	6.7
Ancaster Twp.	Nia.	....	59	8,977.54	415,985	268	129	2.79	2.1
Apple Hill	E.O.	P.V.	19	1,080.88	15,929	46	29	1.96	6.8
Arkona	Nia.	416	250	2,643.71	45,110	96	39	2.29	5.9
Arthur	G.B.	1,037	63	4,569.26	84,764	185	38	2.06	5.4
Athens	E.O.	582	75	3,966.74	73,780	140	44	2.36	5.4
Aylmer	Nia.	1,989	145	10,877.65	509,569	633	67	1.44	2.1
Ayr	Nia.	768	84	5,126.69	213,613	208	85	2.05	2.4
Baden	Nia.	P.V.	103	3,596.36	181,620	133	114	2.25	2.0
Bath	E.O.	350	32	1,441.86	27,795	31	75	3.88	5.2
Beachville	Nia.	P.V.	101	3,018.55	115,886	133	73	1.90	2.6
Beaverton	G.B.	960	28	6,038.34	247,640	303	68	1.66	2.4
Beeton	G.B.	584	80	3,594.50	67,807	124	46	2.42	5.3
Belle River	Nia.	746	250	3,411.84	109,595	207	44	1.37	3.1
Blenheim	Nia.	1,690	202	8,520.56	342,161	490	58	1.45	2 5
Bloomfield	E.O.	614	29	2,713.31	93,039	148	52	1.53	2.9
Blyth	Nia.	602	161	3,893.93	96,731	158	51	2.05	4.0
Bolton	Nia.	593	98	3,426.17	123,193	162	63	1.76	2.8
Bothwell	Nia.	646	217	2,710.60	97,864	169	48	1.34	2.8
Bradford	G.B.	1,009	74	6,341.25	172,785	223	65	2.37	3.7
Brantford Twp.	Nia.	....	79	18,445.68	885,401	751	98	2.05	2.1
Brechin	G.B.	P.V.	18	971.23	17,484	42	35	1.93	5.6
Bridgeport	Nia.	P.V.	98	3,714.20	157,139	110	119	2.81	2.4
Brigden	Nia.	P.V.	233	2,306.85	52,105	108	40	1.78	4.4
Brighton	E.O.	1,413	12	10,102.13	203,428	537	32	1.57	5.0
Brussels	Nia.	770	159	5,318.84	116,924	221	44	2.01	4.5
Burford	Nia.	P.V.	83	4,240.32	192,778	191	84	1.85	2.2
Burgessville	Nia.	P.V.	116	1,254.32	33,908	54	52	1.94	3.6
Caledonia	Nia.	1,400	65	5,314.46	160,888	326	41	1.36	3.3
Campbellville	Nia.	P.V.	96	1,317.96	25,167	40	53	2.75	5.2
Cannington	G.B.	851	36	5,185.51	184,893	246	63	1.76	2.8

"D"—Continued

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

VILLAGES AND SUBURBAN AREAS

however, exerts upon the economic life of the Province a most beneficial influence. It should further be appreciated that about 35 per cent of these municipalities obtain their power, not from Niagara, but from relatively small water-power developments throughout the Province. The net cost per kilowatt-hour given in the table is the cost inclusive of all charges. Consult also introduction to Statement "D," page 406.

Commercial light service						Power service			
Revenue	Consumption	Number of con-sumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of con-sumers	Average monthly horse-power	Total number of con-sumers
$	kw-hr.		kw-hr.	$ c.	cents	$ c.			
3,956.25	192,279	89	180	3.70	2.1	17,147.83	16	622.3	587
1,136.42	31,234	23	113	4.12	3.6	1,289.18	3	55.8	169
1,469.89	37,640	38	83	3.22	3.9	1,020.69	2	40.4	170
4,492.67	118,965	101	98	3.71	3.8	2,478.71	16	140.0	468
2,354.46	36,906	52	59	3.77	6.4	440.56	2	18.5	205
1,788.77	73,794	37	166	4.02	2.4	838.24	5	42.0	310
827.60	17,878	18	83	3.83	4.6	279.49	1	9.4	65
1,649.92	33,738	36	78	3.82	4.9	833.62	2	23.6	134
3,636.14	60,906	86	59	3.52	6.0	2,213.08	4	93.1	275
1,813.42	36,158	50	60	3.02	5.0	1,127.76	1	35.6	191
6,877.10	317,196	133	198	4.31	2.2	3,957.53	13	220.8	779
1,852.48	62,742	45	116	3.43	2.9	161.85	3	11.5	256
1,487.40	52,900	35	126	3.54	2.8	4,821.19	3	185.4	171
718.97	12,869	16	67	3.74	5.6	....	......	....	47
662.16	19,621	20	82	2.76	3.3	9,134.26	4	423.0	157
2,354.80	99,859	63	132	2.98	2.4	1,080.55	9	62.2	375
2,482.40	47,603	37	107	5.21	5.2	1,852.91	5	74.0	166
1,556.07	43,270	46	78	2.82	3.6	1,421.22	4	43.3	257
6,206.73	282,532	126	187	4.10	2.2	4,840.84	10	176.4	626
807.79	25,089	26	80	2.59	3.2	497.13	4	17.0	178
1,821.29	41,449	55	63	2.76	4.4	1,184.15	5	52.0	218
967.73	23,207	43	45	1.88	4.2	2,327.48	9	98.0	214
1,259.10	47,630	48	83	2.19	2.6	764.14	5	66.3	222
3,006.67	65,896	63	87	3.98	4.6	2,991.65	8	152.6	294
3,947.57	195,033	45	361	7.31	2.0	3,972.99	5	167.9	801
1,074.32	20,521	28	61	3.20	5.2	1,077.29	4	38.3	74
1,049.03	41,370	19	181	4.60	2.5	259.09	4	13.9	133
1,754.03	38,676	43	75	3.40	4.5	1,026.74	6	32.8	157
4,619.79	129,410	95	113	4.05	3.6	2,051.65	9	109.2	641
2,803.16	69,571	66	88	3.54	4.0	749.06	2	25.0	289
944.20	42,173	32	110	2.46	2.2	1,532.87	4	68.0	227
581.80	14,187	21	56	2.31	4.1	286.05	2	13.0	77
3,877.51	145,733	86	141	3.76	2.7	2,303.00	8	90.2	420
488.67	12,650	8	132	5.09	3.8	....	......	....	48
2,337.93	72,935	71	86	2.74	3.2	619.89	10	33.7	327

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Cardinal	E.O.	1,305	38	6,257.90	179,546	286	52	1.82	3.5
Cayuga	Nia.	705	82	3,271.60	86,088	121	59	2.25	3.8
Chatsworth	G.B.	272	23	1,590.06	28,435	73	32	1.93	5.6
Chesley	G.B.	1,789	46	8,902.79	326,078	420	65	1.77	2.7
Chesterville	E.O.	950	44	5,396.47	219,565	227	81	1.98	2.5
Chippawa	Nia.	1,073	4	6,135.21	309,230	331	78	1.54	2.0
Clifford	Nia.	454	173	2,341.49	45,826	105	36	1.86	5.1
Clinton	Nia.	1,842	155	11,717.71	509,019	504	84	1.94	2.3
Colborne*	E.O.	977	19	4,517.68	94,531	218	39	1.88	4.8
Coldwater	G.B.	626	17	2,884.70	133,971	131	85	1.84	2.2
Comber	Nia.	P.V.	216	2,354.18	63,794	98	54	2.00	3.7
Cookstown	G.B.	P.V.	65	2,479.81	35,831	96	31	2.15	6.9
Cottam	Nia.	P.V.	257	2,545.36	61,530	105	49	2.02	4.1
Courtright	Nia.	348	215	1,604.43	25,183	58	36	2.31	6.3
Creemore	G.B.	587	60	3,579.49	76,984	148	43	2.02	4.6
Dashwood	Nia.	P.V.	163	1,532.16	36,229	66	46	1.93	4.2
Delaware	Nia.	P.V.	137	1,331.90	36,724	48	64	2.31	3.6
Deseronto	E.O.	1,418	32	6,416.69	146,453	291	42	1.84	4.4
Dorchester	Nia.	P.V.	129	2,483.10	99,683	124	67	1 67	2.5
Drayton	Nia.	559	169	3,093.75	100,735	147	57	1.75	3.1
Dresden	Nia.	1,488	210	6,212.10	224,211	372	50	1.39	2.7
Drumbo	Nia.	P.V.	90	2,130.97	71,235	82	72	2.17	3.0
Dublin	Nia.	P.V.	140	1,334.24	26,666	40	56	2.78	5 0
Dundalk	G.B.	647	18	2,604.62	76,894	157	41	1.38	3.4
Durham	G.B.	1,800	23	6,477 31	266,185	422	52	1.28	2.4
Dutton	Nia.	761	152	3,545.07	154,367	204	63	1.45	2.3
East York Twp	Nia.	....	86	175,276.26	8,206,375	8,744	78	1.67	2.1
Elmvale	G.B.	P.V.	32	2,673.02	81,937	150	45	1.48	3.2
Elmwood	G.B.	P.V.	40	1,185.37	22,808	58	33	1.70	5.2
Elora	Nia.	1,144	94	7,125.01	275,808	307	75	1.93	2.3
Embro	Nia.	437	107	2,758.79	87,805	99	74	2.32	3.1
Erieau	Nia.	264	210	3,652.19	85,157	138	51	2.21	4.3
Erie Beach	Nia.	....	209	1,518.16	18,595	63	25	2.01	8.0
Essex	Nia.	1,888	254	7,502.00	296,447	413	60	1.51	2.5
Etobicoke Twp	Nia.	....	73	93,889.08	5,963,150	3,114	159	2.51	1.6
Exeter	Nia.	1,622	155	11,406.32	491,551	452	91	2.10	2.3
Finch	E.O.	383	53	1,941.99	41,859	78	45	2.07	4.6
Flesherton	G.B.	491	7	2,686.74	73,734	139	44	1.61	3.6
Fonthill	Nia.	862	25	4,877.99	204,939	194	88	2.10	2.4
Forest	Nia.	1,465	256	10,865.60	397,869	458	72	1.98	2.7

"D"—Continued

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

VILLAGES AND SUBURBAN AREAS

Commercial light service						Power service			
Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of consumers	Average monthly horse-power	Total number of consumers
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
1,943.40	56,126	50	94	3.24	3.5	551.64	2	17.0	338
2,867.78	70,805	54	109	4.43	4.1	1,404.86	4	42.4	179
1,304.24	23,492	29	67	3.75	5.6	583.08	1	28.6	103
4,106.77	153,400	97	132	3.53	2.7	9,442.42	19	352.6	536
2,298.21	63,118	65	81	2.95	3.6	2,562.57	3	96.6	295
1,079.44	54,879	31	148	2.90	2.0	1,062.88	6	40.2	368
1,581.17	32,429	40	68	3.29	4.9	119.86	1	5.0	146
5,931.47	215,250	129	139	3.83	2.8	5,797.34	15	233.2	648
3,112.69	67,920	79	78	3.58	4.6	591.26	3	32.0	300
1,746.74	53,802	54	83	2.68	3.2	2,557.43	4	116.2	189
2,292.75	65,129	49	111	3.90	3.5	3,049.83	3	79.4	150
1,264.87	19,352	27	60	3.90	6.5	911.92	5	68.0	128
1,298.35	37,940	28	113	3.86	3.4	389.53	1	15.0	134
941.55	14,952	23	54	3.41	6.3	891.28	2	14.5	83
1,808.96	44,269	51	72	2.96	4.1	1,102.80	3	51.4	202
879.68	16,285	27	50	2.72	5.4	576.61	1	18.0	94
601.43	19,122	18	89	2.78	3.1	....	......	....	66
2,254.49	35,705	66	45	2.85	6.3	2,028.21	11	80.2	368
818.97	25,567	26	82	2.62	3.2	269.73	1	20.3	151
1,887.84	47,974	58	69	2.71	3.9	1,017.47	4	48.1	209
5,002.21	192,784	122	132	3.42	2.6	4,907.27	10	236.0	504
1,039.19	27,438	25	91	3.46	3.8	753.76	1	21.6	108
887.79	15,436	22	58	3.36	5.8	451.79	3	19.0	65
2,200.70	63,624	69	77	2.66	3.5	2,240.17	4	121.3	230
4,139.84	148,087	109	113	3.17	2.8	6,617.71	11	274.3	542
2,534.26	93,962	71	110	2.97	2.7	3,552.14	7	151.1	282
23,952.07	1,247,786	367	283	5.44	1.9	27,526.00	35	1,194.2	9,146
1,728.30	56,994	59	80	2.44	3.0	2,759.12	8	161.8	217
586.45	11,993	19	53	2.57	4.9	1,339.14	1	34.0	78
3,524.48	114,836	73	131	4.02	3.1	2,907.45	2	131.1	382
1,586.05	35,344	45	65	2.94	4.5	1,530.55	1	40.0	145
1,058.34	24,496	12	170	7.35	4.3	879.43	2	36.1	152
258.57	4,568	3	127	7.18	5.7	....	......	....	66
4,666.24	174,570	112	130	3.47	2.6	6,052.86	17	285.7	542
16,220.69	830,595	212	326	6.37	2.0	15,691.35	22	704.0	3,348
4,896.67	148,762	121	102	3.37	3.3	4,607.11	9	206.2	582
1,549.09	29,403	31	79	4.16	5.3	700.39	1	15.5	110
1,768.58	45,281	48	79	3.07	3.9	226.29	2	10.5	189
974.73	41,572	33	105	2.46	2.3	596.85	5	21.6	232
5,208.04	158,227	139	95	3.12	3.3	5,271.19	24	199.6	621

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Glencoe	Nia.	800	229	5,470.81	170,526	218	65	2.09	3.2
Grand Valley	G.B.	587	51	3,467.61	72,153	156	39	1.85	4.8
Granton	Nia.	P.V.	147	1,692.71	65,892	80	68	1.76	2.6
Gravenhurst	G.B.	1,830	7	8,580.86	517,768	464	93	1.54	1.7
Hagersville	Nia.	1,370	75	4,816.57	232,928	316	61	1.27	2.1
Harriston	Nia.	1,293	167	7,829.33	231,381	338	57	1.93	3.4
Harrow	Nia.	926	267	7,875.06	391,827	246	133	2.67	2.0
Hastings	E.O.	707	15	3,997.82	73,390	166	37	2.01	5.4
Havelock	E.O.	1,096	25	6,089.60	139,043	281	41	1.80	4.4
Hensall	Nia.	719	161	4,180.44	146,107	180	68	1.94	2.9
Highgate	Nia.	338	217	1,783.58	45,813	96	40	1.55	3.9
Holstein	G.B.	P.V.	34	1,479.27	12,708	54	20	2.28	11.6
Jarvis	Nia.	504	81	2,396.78	58,930	120	41	1.66	4.3
Kemptville	E.O.	1,227	62	7,000.28	216,499	318	57	1.83	3.2
Kirkfield	G.B.	P.V.	35	749.21	14,026	27	43	2.31	5.3
Lakefield	E.O.	1,303	8	6,425.25	227,442	309	61	1.73	2.8
Lambeth	Nia.	P.V.	130	3,387.28	128,521	109	98	2.59	2.6
Lanark	E.O.	636	21	2,792.36	62,305	150	35	1.55	4.5
Lancaster	E.O.	601	25	2,016.86	31,445	78	34	2.15	6.4
La Salle	Nia.	600	248	6,313.91	248,010	198	104	2.66	2.5
London Twp.	Nia.	....	128	10,610.79	605,135	330	153	2.68	1.7
Lucan	Nia.	590	141	4,777.67	184,655	174	88	2.29	2.6
Lucknow	G.B.	1,082	68	6,845.31	175,715	252	58	2.26	3.9
Lynden	Nia.	P.V.	62	2,151.80	72,799	81	75	2.21	3.0
Madoc	E.O.	1,059	25	4,856.28	112,996	260	36	1.56	4.3
Markdale	G.B.	774	7	3,571.87	120,281	187	54	1.60	3.0
Markham	Nia.	1,073	114	6,880.40	237,786	272	73	2.11	2.9
Marmora	E.O.	924	20	3,613.94	64,314	198	27	1.52	5.6
Martintown	E.O.	P.V.	14	807.82	12,155	35	29	1.93	6.6
Maxvale	E.O.	785	26	3,191.96	48,271	132	30	2.01	6.6
Merlin	Nia.	P.V.	219	2,261.27	51,655	104	41	1.81	4.4
Mildmay	G.B.	694	5	2,967.88	56,250	140	34	1.77	5.3
Milton	Nia.	1,828	88	11,622.25	479,526	456	87	2.12	2.4
Milverton	Nia.	1,004	139	5,672.73	266,859	223	100	2.12	2.1
Mitchell	Nia.	1,571	135	10,478.52	498,958	429	97	2.04	2.1
Moorefield	Nia.	P.V.	168	1,068.82	21,913	63	29	1.41	4.9
Mt. Brydges	Nia.	P.V.	141	2,832.07	108,697	136	67	1.74	2.6
Mt. Forest	G.B.	1,821	38	7,571.59	336,750	447	61	1.41	2.2
Neustadt	G.B.	465	40	2,019.90	20,988	96	18	1.75	9.6
Newbury	Nia.	267	223	1,266.73	25,955	62	35	1.70	4.9

"D"—Continued

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

VILLAGES AND SUBURBAN AREAS

Commercial light service						Power service			
Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Numbes of consumers	Average monthly horse-power	Total number of consumers
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
3,152.02	84,283	80	88	3.28	3.7	2,974.70	6	98.6	304
1,799.23	36,361	48	63	3.12	4.9	1,975.40	4	72.0	208
1,028.21	34,550	33	88	2.60	2.9	830.74	2	39.0	115
6,087.91	335,475	115	243	4.41	1.8	7,778.01	12	383.0	591
4,468.97	240,189	107	187	3.48	1.9	11,477.85	17	602.7	440
4,842.28	132,795	105	105	3.84	3.6	5,568.28	12	220.3	455
3,499.99	123,431	77	134	3.78	2.8	3,558.36	4	154.7	327
1,684.61	22,858	49	39	2.86	7.4	759.66	5	14.6	220
2,087.16	43,733	64	57	2.72	4.8	2,881.48	3	105.4	348
1,800.34	49,063	52	79	2.89	3.7	2,556.11	14	126.1	246
976.17	23,961	37	54	2.20	4.1	1,120.69	6	56.1	139
570.60	5,133	18	24	2.64	11.1	238.59	1	7.5	73
1,868.82	54,316	36	126	4.33	3.4	4,220.35	4	142.0	160
4,387.41	152,272	83	153	4.40	2.9	4,620.72	7	181.8	408
1,156.47	19,212	20	80	4.82	6.0	....	......	....	47
3,463.55	140,852	69	170	4.18	2.5	1,826.60	6	125.8	384
1,511.67	46,350	28	138	4.50	3.3	576.57	2	27.5	139
1,201.42	30,155	36	70	2.78	4.0	....	......	....	186
1,677.89	23,465	36	54	3.88	7.1	....	......	....	114
1,666.45	65,167	21	259	6.61	2.6	2,254.05	5	74.6	224
2,446.39	120,860	19	530	10.73	2.0	1,537.05	5	52.0	354
1,617.17	44,043	44	83	3.06	3.7	370.86	7	22.7	225
2,998.23	69,772	79	74	3.16	4.3	4,017.01	7	116.4	338
713.59	24,949	21	99	2.83	2.9	749.82	1	36.0	103
3,484.56	89,200	98	76	2.96	3.9	1,016.60	6	83.6	364
2,580.48	79,361	79	84	2.72	3.3	1,129.02	10	91.0	276
2,614.73	82,231	66	104	3.30	3.2	3,262.60	11	125.5	349
1,496.46	31,533	44	60	2.83	4.7	131.40	2	10.3	244
987.08	16,594	22	63	3.74	5.9	....	......	....	57
2,396.57	42,960	43	83	4.64	5.6	....	......	....	175
1,704.94	42,459	45	79	3.16	4.0	1,470.08	2	47.4	151
2,024.23	33,177	47	59	3.59	6.1	719.27	2	22.7	189
5,463.21	235,619	104	190	4.38	2.3	11,308.00	21	461.0	581
2,775.02	82,131	71	96	3.26	3.4	4,093.63	7	220.8	301
4,196.91	167,402	99	141	3.53	2.5	4,910.74	24	254.8	552
647.64	10,001	27	31	2.00	6.5	1,161.94	2	42.6	92
915.76	31,817	36	74	2.12	2.9	917.24	3	32.9	175
5,190.17	208,790	160	109	2.70	2.5	4,255.50	11	227.0	618
1,357.97	17,211	28	51	4.04	7.9	63.33	2	3.3	126
957.67	18,787	27	58	2.96	5.1	760.22	2	35.3	91

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumer
For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population,

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
New Hamburg	Nia.	1,426	106	10,770.96	476,280	343	116	2.62	2.3
Niagara-on-the Lake	Nia.	1,672	13	14,217.28	979,710	464	176	2.55	1.5
Nipigon	T.B.	P.V.	14	2,510.41	69,166	134	43	1.56	3.6
North York Twp.	Nia.	....	84	94,813.34	4,027,459	2,802	120	2.82	2.3
Norwich	Nia.	1,126	110	8,128.33	402,222	359	93	1.89	2.0
Norwood	E.O.	727	10	4,480.44	117,016	217	45	1.72	3.8
Oil Springs	Nia.	433	226	1,636.56	40,838	75	45	1.81	4.0
Omemee	E.O.	498	15	2,249.60	56,437	126	37	1.49	4.0
Otterville	Nia.	P.V.	115	2,115.40	71,863	102	59	1.72	2.9
Paisley	G.B.	732	56	3,937.95	69,353	186	31	1.76	5.7
Palmerston	Nia.	1,617	161	10,859.15	467,259	389	100	2.33	2.3
Parkhill	Nia.	998	157	4,742.41	110,550	238	39	1.66	4.3
Plattsville	Nia.	P.V.	96	2,610.72	65,222	91	60	2.39	4.0
Point Edward	Nia.	1,211	209	5,693.23	206,160	300	57	1.58	2.7
Port Credit	Nia.	1,650	69	13,127.25	832,577	400	173	2.73	1.6
Port Dalhousie	Nia.	1,331	21	13,147.96	808,199	587	115	1.87	1.6
Port Dover	Nia.	1,680	108	8,036.80	263,565	476	46	1.41	3.0
Port Elgin	G.B.	1,230	6	8,046.31	222,550	373	50	1.80	3.6
Port McNicoll	G.B.	928	21	3,643.06	170,728	197	72	1.54	2.1
Port Perry	G.B.	1,130	58	6,660.96	227,472	300	66	1.85	2.9
Port Rowan	Nia.	674	124	3,479.35	55,019	101	45	2.87	6.3
Port Stanley	Nia.	723	146	12,781.37	559,757	596	78	1.79	2.3
Priceville	G.B.	P.V.	12	675.10	8,544	31	23	1.81	7.9
Princeton	Nia.	P.V.	96	2,143.41	55,613	77	60	2.32	3.9
Queenston	Nia.	P.V.	7	2,539.83	113,915	68	140	3.11	2.2
Richmond	E.O.	381	19	1,868.77	49,446	53	78	2.94	3.8
Richmond Hill	Nia.	1,270	103	7,421.53	335,237	321	87	1.93	2.2
Ridgetown	Nia.	1,942	211	9,111.63	418,297	557	63	1.36	2.2
Ripley	G.B.	451	69	3,363.35	56,417	128	37	2.19	6.0
Rockwood	Nia.	P.V.	87	2,976.57	127,033	145	73	1.71	2.3
Rodney	Nia.	757	163	3,349.64	103,110	202	43	1.38	3.2
Rosseau	G.B.	251	37	2,871.74	41,636	61	57	3.92	6.8
Russell	E.O.	P.V.	58	2,535.67	45,915	107	36	1.97	5.5
St. Clair Beach	Nia.	74	247	2,297.29	79,388	38	174	5.04	2.9
St. George	Nia.	P.V.	82	2,876.52	148,575	132	94	1.82	2.9
St. Jacobs	Nia.	P.V.	102	3,829.52	179,632	109	137	2.93	2.1
Scarboro Twp.	Nia.	....	87	85,543.29	4,283,697	4,404	77	1.67	2.0
Seaforth	Nia.	1,692	147	10,808.12	481,044	391	103	2.30	2.2
Shelburne	G.B.	1,064	31	5,384.95	192,854	285	56	1.57	2.8
Southampton	G.B.	1,520	3	8,144.39	228,771	384	50	1.77	3.6

"D"—Continued

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

VILLAGES AND SUBURBAN AREAS

Commercial light service						Power service			
Revenue	Consumption	Number of consumers	Average monthly consumptve	Average monthly bill	Net cost per kw-hr.	Revenue	Number of consumers	Average monthly horse-power	Total number of consumers
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
4,255.63	134,364	93	120	3.81	3.2	4,594.44	14	221.7	450
3,410.85	181,658	82	185	3.47	1.9	2,474.05	10	84.2	556
1,831.65	54,788	39	117	3.91	3.3	979.94	2	41.6	175
15,325.38	516,300	233	185	5.48	3.0	31,568.43	36	1,068.2	3,071
3,068.33	119,255	77	130	3.36	2.6	2,230.06	7	105.5	443
2,176.66	50,250	70	60	2.59	4.3	626.22	2	23.4	289
1,168.42	32,116	30	89	3.25	3.6	7,848.65	31	204.9	136
1,268.12	32,113	47	57	2.25	3.9	1,452.73	6	59.2	179
1,656.94	49,039	43	95	3.21	3.4	268.75	4	19.0	149
2,679.61	70,278	55	106	4.06	3.8	1,155.09	4	32.7	245
4,888.74	199,113	90	184	4.53	2.5	6,567.77	11	362.3	490
3,052.58	69,290	79	73	3.22	4.4	826.37	4	32.1	321
1,055.17	21,641	26	69	3.38	4.9	532.83	1	20.9	118
2,009.55	73,517	44	140	3.80	2.7	17,972.48	9	732.0	353
4,609.43	226,605	72	262	5.33	2.0	2,204.84	6	114.2	478
2,736.23	135,495	55	205	4.15	2.0	5,038.13	10	304.5	652
4,405.46	142,940	122	98	3.01	3.1	4,976.57	12	214.2	610
4,123.07	103.00	86	100	4.00	4.0	4,287.57	8	160.7	467
801.37	20,505	31	55	2.15	3.9	....	......	....	228
2,805.22	73,110	75	81	3.12	3.8	2,900.69	10	123.1	385
1,657.90	25,682	30	71	4.61	6.5	90.49	1	3.5	132
3,704.61	116,706	97	100	3.18	3.2	4,198.45	10	143.9	703
332.43	5,864	12	41	2.31	5.7	....	......	....	43
697.24	19,821	20	83	2.91	3.5	3,075.76	3	82.0	100
818.72	33,601	11	255	6.20	2.4	187.73	1	5.2	80
1,551.59	39,466	24	137	5.39	3.9	....	......	....	77
3,736.73	151,653	60	211	5.19	2.5	2,979.57	17	149.4	398
4,836.72	187,236	144	108	2.80	2.6	4,305.56	24	195.3	725
1,858.53	24,433	44	46	3.52	7.6	....	......	....	172
948.07	33,729	34	83	2.32	2.8	257.99	2	12.1	181
2,443.00	64,571	73	74	2.79	3.8	2,172.43	7	101.4	282
927.90	8,271	21	33	3.68	11.1	....	......	....	82
1,284.49	23,480	33	59	3.24	5.5	....	......	....	140
1,133.89	29,761	8	310	11.81	3.8	374.68	2	15.5	48
1,026.14	38,293	36	89	2.38	2.7	2,168.29	3	83.6	171
1,134.57	31,998	28	95	3.38	3.5	1,030.20	6	57.7	143
17,694.05	829,066	361	192	4.08	2.1	21,185.74	30	817.7	4,795
5,076.86	241,409	105	192	4.03	2.1	4,818.75	15	265.6	511
3,309.71	105,115	83	106	3.32	3.1	2,170.01	11	122.5	379
3,487.74	89,203	83	90	3.50	3.9	3,369.02	13	139.1	480

STATEMENT

Statistics Relating to the Supply of Electric Energy to Consumers For Domestic Service, for Commercial Light Service

Group III—SMALL TOWNS (less than 2,000 population),

Municipality	System	Population	Distance from nearest generating station supplying system	Domestic service					
				Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.
			miles	$ c.	kw-hr.		kw-hr.	$ c.	cts.
Springfield	Nia.	379	151	1,656.59	50,572	98	43	1.41	3.3
Stamford Twp.	Nia.	....	2	51,719.41	3,027,973	1,645	153	2.62	1.7
Stayner	G.B.	1,042	53	4,391.43	178,622	257	58	1.42	2.5
Stirling	E.O.	865	19	5,346.26	291,220	268	91	1.66	1.8
Stouffville	Nia.	1,105	110	7,124.57	220,696	336	55	1.77	3.2
Sunderland	G.B.	P.V.	44	2,335.55	43,773	112	33	1.74	5.3
Sutton	Nia.	809	114	7,578.25	184,088	382	40	1.66	4.7
Tara	G.B.	491	34	2,632.36	56,746	127	37	1.73	4.6
Tavistock	Nia.	1,042	129	6,906.75	338,871	261	108	2.21	2.0
Teeswater	G.B.	805	58	4,642.20	88,560	195	38	1.98	5.2
Thamesford	Nia.	P.V.	136	2,428.13	101,281	121	69	1.67	2.2
Thamesville	Nia.	754	207	4,003.41	143,485	219	55	1.52	2.8
Thedford	Nia.	577	268	3,152.75	53,887	126	36	2.09	5.9
Thorndale	Nia.	P.V.	136	1,432.95	36,349	62	49	1.93	3.9
Thornton	G.B.	P.V.	58	1,151.90	13,703	55	21	1.75	8.4
Tilbury	Nia.	1,996	209	6,539.15	269,583	420	53	1.30	2.4
Toronto Twp.	Nia	....	67	58,575.37	2,969,011	1,875	132	2.60	2.0
Tottenham	G.B.	546	82	3,227.06	57,917	128	38	2.10	5.6
Trafalgar Twp. No. 1	Nia.	....	....	14,152.49	567,750	300	158	3.93	2.5
Trafalgar Twp. No. 2	Nia.	....	....	4,967.94	227,225	136	139	3.04	2.2
Tweed	E.O.	1,247	41	6,324.50	127,267	249	43	2.12	5.0
Uxbridge	G.B.	1,506	60	8,019.21	275,590	354	65	1.89	2.9
Victoria Harbour	G.B.	1,171	17	2,894.43	87,006	167	43	1.44	3.3
Wardsville	Nia.	214	225	1,124.76	20,931	47	37	1.99	5.4
Warkworth	E.O.	P.V.	17	2,185.13	38,430	106	30	1.72	5.7
Waterdown	Nia.	924	57	5,645.12	283,756	218	108	2.16	2.0
Waterford	Nia.	1,168	94	6,575.26	380,470	306	104	1.79	1.7
Watford	Nia.	956	256	6,682.44	184,390	284	54	1.96	3.6
Waubaushene	G.B.	P.V.	12	2,221.17	94,187	134	52	1.38	2.4
Wellesley	Nia.	P.V.	111	2,706.26	82,238	121	67	1.86	3.3
Wellington	E.O.	900	22	4,733.77	193,529	284	57	1.36	2.4
West Lorne	Nia.	814	159	3,197.04	93,253	187	41	1.42	3.5
Westport	E.O.	733	71	3,198.24	49,653	96	43	2.78	6.4
Wheatley	Nia.	724	279	4,427.83	122,524	171	60	2.16	3.6
Wiarton	G.B.	1,911	33	8,800.93	174,202	349	42	2.10	5.1
Williamsburg	E.O.	P.V.	28	3,702.03	148,431	92	134	3.35	2.5
Winchester	E.O.	963	38	5,870.21	276,750	277	83	1.77	2.1
Windermere	G.B.	135	22	2,241.87	30,471	48	53	3.89	7.3
Wingham	G.B.	1,842	70	12,512.87	400,711	504	66	2.07	3.1
Woodbridge	Nia.	744	85	6,370.89	265,476	244	91	2.18	2.4
Woodville	G.B.	414	40	2,291.30	58,907	110	45	1.74	3.9
Wyoming	Nia.	482	239	2,647.88	57,663	132	36	1.67	4.6
Zurich	Nia.	P.V.	168	3,176.37	78,539	124	53	2.13	4.0

"D"—Concluded

in Ontario Municipalities Served by the Commission and for Power Service during the Year 1933

VILLAGES AND SUBURBAN AREAS

Commercial light service						Power service			Total number of consumers
Revenue	Consumption	Number of consumers	Average monthly consumption	Average monthly bill	Net cost per kw-hr.	Revenue	Number of consumers	Average monthly horse-power	
$ c.	kw-hr.		kw-hr.	$ c.	cents	$ c.			
707.14	16,138	30	45	1.96	4.4	1,060.65	3	43.6	131
6,593.80	390,451	111	293	4.95	1.7	5,679.88	13	251.6	1,769
2,642.06	90,478	83	91	2.65	2.9	2,375.56	12	141.2	352
3,351.71	132,205	80	138	3.49	2.5	2,047.28	10	91.7	358
2,739.57	70,908	80	74	2.85	3.8	839.91	5	40.8	421
1,699.71	34,980	42	69	3.37	4.9	55.85	1	5.0	155
2,981.82	92,842	84	92	2.96	3.2	1,073.01	5	30.8	471
1,306.32	31,430	36	73	3.02	4.2	690.33	4	34.4	167
2,051.73	83,477	68	102	2.51	2.5	8,937.52	6	340.7	335
2,219.12	49,019	55	74	3.36	4.5	1,119.09	7	49.0	257
1,310.32	54,534	39	117	2.80	2.4	2,979.91	7	99.0	167
2,756.04	86,969	71	102	3.23	3.2	2,360.70	8	99.3	298
1,796.45	26,689	40	56	3.74	6.7	1,599.64	3	41.6	169
920.15	23,924	24	83	3.19	3.8	254.32	1	5.4	87
637.95	7,060	18	33	2.95	9.0	243.14	3	12.0	77
6,999.33	271,904	135	168	4.32	2.6	7,118.46	12	481.3	567
13,743.10	583,280	188	260	6.09	2.3	6,862.46	23	334.0	2,086
2,100.62	26,002	54	40	3.24	8.1	360.99	4	15.8	186
640.62	15,605	2	650	26.68	4.1	520.19	9	27.7	311
....	....	......	......	......	......	....	......	....	136
4,460.90	90,146	92	82	4.04	4.9	2,300.91	12	91.8	353
3,255.12	86,327	91	79	2.98	3.8	931.13	10	77.6	455
839.09	30,470	28	91	2.50	2.8	171.54	2	6.0	197
1,075.78	21,441	21	85	4.27	5.0	....	......	....	68
1,551.15	30,735	43	60	3.01	5.0	....	......	....	149
1,696.40	83,577	33	211	4.28	2.0	1,660.54	7	80.2	258
1,766.76	102,920	73	117	2.03	1.7	4,422.87	11	233.7	390
3,237.14	89,970	76	99	3.55	3.6	2,791.53	5	95.0	365
630.34	20,463	25	68	2.10	3.1	703.18	3	25.0	162
1,527.81	37,707	44	71	2.89	4.0	1,773.00	5	61.7	170
2,067.20	63,963	64	83	2.69	3.2	2,128.95	6	82.7	354
1,483.82	50,569	49	86	2.52	2.9	1,277.99	4	60.3	240
2,906.93	38.251	49	65	4.94	7.6	....	......	....	145
2,717.93	70,941	57	104	3.97	3.8	2,061.76	4	78.4	232
5,782.47	114,652	103	93	4.67	4.9	3,224.05	13	103.1	465
7,503.38	309,138	63	409	9.93	2.4	231.98	1	16.0	156
3,363.90	126,890	68	155	4.12	2.7	1,548.03	2	38.9	347
1,095.71	17,706	9	164	10.14	6.1	....	......	....	57
6,933.68	193,346	143	104	4.04	3.6	8,788.87	24	361.9	671
1,632.47	54,654	50	109	2.72	3.0	5,081.13	6	242.5	300
1,068.90	22,323	31	60	2.87	4.8	770.18	2	36.7	143
1,582.19	37,524	50	62	2.64	4.2	152.10	2	15.0	184
1,860 84	40,734	46	74	3.37	4.6	....	......	....	170

STATEMENT "E"

Cost of Power to Municipalities and Rates to Consumers for Domestic Service—Commercial Light Service—Power Service in Urban Municipalities Service by the Hydro-Electric Power Commission for the Year 1933

In Statement "E" are presented the rate schedules applicable to consumers for domestic service, for commercial light service and for power service in each of the co-operating municipalities receiving service at cost through the Hydro-Electric Power Commission.* The cost per horsepower of the power supplied at wholesale by the Commission to the municipality, which is an important factor in determining the rates to consumers, is also stated.

Cost of Power to Municipalities

The figures of the first column in the table represent the total cost for the year of the power supplied by the Commission to the municipality, divided by the number of horsepower supplied. Details respecting these costs are given in the "Cost of Power" tables relating to the several systems, as presented in Section IX, and an explanation of the items making up the cost of power is given in the introduction to that Section.

Rates to Consumers

The Power Commission Act stipulates that "The rates chargeable by any municipal corporation generating or receiving and distributing electrical power or energy shall at all times be subject to the approval and control of the Commission." In accordance with the Act and in pursuance of its fundamental principle of providing service at cost, the Commission requires that accurate cost records be kept in each municipality, and exercises a continuous supervision over the rates charged to consumers.

From the commencement of its operations, the Commission introduced in the municipalities which it serves, scientifically-designed rate schedules for each of the three main classes into which the electrical service is usually divided, namely: residential or domestic service, commercial light service, and power service, and the schedules in use during the past year are presented in the tables of this statement.

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*Except townships served as parts of rural power districts, for which consult latter part of Section III.

Domestic Service: Domestic rates apply to electrical service in residences, for all household purposes, including lighting, cooking and the operation of all domestic appliances.

Commercial Light Service: Electrical energy used in stores, offices, churches, schools, public halls and institutions, hotels, public boarding-houses, and in all other premises for commercial purposes, including sign and display lighting, is billed at commercial lighting rates.

Power Service: The rate schedules given for power service in Statement "E" are those governing the supply of power at retail by each of the local municipal utilities. The average amount of power sold, per consumer, under these rates is approximately 40 horsepower—consult Statement "D." The Commission serves certain large power consumers direct on behalf of the various systems of municipalities.

The rates for power service, as given in the tables, are the rates for 24-hour unrestricted power at secondary distribution voltage. For service at primary distribution voltage the rates are usually five per cent lower than those stated. In municipalities where the load conditions and other circumstances permit, lower rates are available for 10-hour power, and for other forms of restricted service. For these classifications, discounts additional to those listed in the table are applicable.

The service charge relates to the connected load or to the maximum demand, as measured by a 10-minute average peak, where a demand meter is installed. The prompt payment discount of 10 per cent on the total monthly bill is given for settlement within 10 days.

Under the tabulation of rates for power service there is a column headed "Basis of rate 130 hours monthly use of demand." This column shows approximately the net annual amount payable for a demand of one horsepower, assuming a monthly use of 130 hours, which includes 30 hours' use each month at the third energy rate. Broadly, the figures in this column serve to indicate approximately the relative cost of power service in the different municipalities listed.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
Acton	33.95	33–66	60	2.2	1.1	0.83	10
Agincourt	39.38	33–66	50	4	2	1.11	10
Ailsa Craig	51.49	33–66	55	3.5	1.5	0.83	10
Alexandria T	65.41	33–66	60	5	2	1.11	10
Alliston	54.92	33–66	40	4.5	2	1.39	10
Alvinston	88.07	33–66	60	6	2	2.22	10
Amherstburg T	36.42	33–66	55	2.8	1.3	0.83	10
Ancaster twp.	32.28	33–66	55	3	1.5	0.83	10
Apple Hill	57.48	33–66	60	6	2	1.66	10
Arkona	77.26	33–66	55	6	2	1.94	10
Arthur	73.28	33–66	40	6	2	1.67	10
Athens	56.30	33–66	40	6	2	1.66	10
Aylmer T	35.95	33–66	60	2.3	1	0.83	10
Ayr	34.78	33–66	55	3	1.25	1.11	10
Baden	33.56	33–66	60	2.5	1.25	0.83	10
Barrie T	34.20	33–66	60	2.5	1.25	0.83	10
Bath	77.29	33–66	40	6	2	3.33	10
Beachville	32.86	33–66	55	3	1.5	0.83	10
Beaverton	43.39	33–66	60	2.5	1.25	1.11	10
Beeton	68.84	33–66	35	7	2	1.67	10
Belle River	40.45	33–66	55	3.2	1.3	1.11	10
Belleville C	36.45	......	60	3	1.25	0.83	10
Blenheim	39.24	33–66	60	2.5	1.25	0.83	10
Bloomfield	59.24	33–66	50	3	1.5	0.83	10
Blyth	54.94	33–66	50	4	2	1.66	10
Bolton	41.11	33–66	55	3.5	1.6	1.11	10
Bothwell	47.54	33–66	60	2.5	1.25	0.83	10
Bowmanville T	41.19	33–33	60	4.5	2	0.83	10
Bradford	62.44	33–66	35	5.5	2	1.67	10
Brampton T	31.58	33–66	60	2	1	0.83	10
Brantford C	27.28	33–66	60	2	1	0.83	10
Brantford twp.	31.93	33–66	60	2.5	1.25	1.11	10
Brechin	51.32	33–66	45	5	2	1.67	10
Bridgeport	37.20	33–66	50	4	1.5	1.11	10
Brigden	62.07	33–66	60	4	2	1.38	10
Brighton	41.84	33–66	60	5	2	1.11	10
Brockville T	33.39	33–66	50	2	1	0.83	10
Brussels	51.86	33–33	50	5	2	1.66	10
Burford	34.55	33–66	60	2.5	1.25	1.11	10
Burgessville	55.18	33–66	50	4	2	1.11	10

*To distinguish them from the smaller municipalities and suburban districts the cities are indicated by a C and the towns of population 2,000 or more by a T; corresponding to the grouping in Statement "D."

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

"E"

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	2.2	0.6	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	4	1	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3.5	0.75	0.83	10	32.00	1.00	3.1	2	0.33	....	......	10
5	5	1	1.66	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	4.5	1	1.39	10	35.00	1.00	3.5	2.3	0.33	....	......	10
7.5	6	1	2.22	10	59.00	1.00	7.1	4.7	0.33	....	......	10
5	2.8	0.75	0.83	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	3	0.75	0.83	10	31.00	1.00	2.9	1.9	0.33	....	......	10
5	6	1	2.22	10	55.00	1.00	6.5	4.3	0.33	....	......	10
7.5	6	1	1.94	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	6	1	1.67	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	6	1	1.66	10	60.00	1.00	7.2	4.8	0.33	....	......	10
5	2.3	0.6	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	3	0.75	1.11	10	38.00	1.00	4	2.6	0.33	....	......	10
5	2.5	0.75	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	2.5	1	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	6	1	3.33	10	......	......	......	......	......	....	......	......
5	3	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	2.5	1	1.11	10	25.00	1.00	2	1.3	0.33	....	......	10
5	7	1	1.67	10	38.00	1.00	4	2.6	0.33	....	......	10
5	3.2	0.75	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	2.5	1	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	2.5	0.75	0.83	10	34.00	1.00	3.4	2.2	0.33	....	......	10
5	3	1	0.83	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	4	1	1.66	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	3.5	1	1.11	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	2.5	0.75	0.83	10	38.00	1.00	4	2.6	0.33	....	......	10
5	4.5	2	0.83	10	27.00	1.00	2.3	1.5	0.33	....	......	10
5	5.5	1	1.67	10	38.00	1.00	4	2.6	0.33	....	......	10
5	2	0.75	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
......	†3.5 ††1.75	0.35	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.5	0.75	1.11	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	5	1	1.67	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	4	0.75	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	4	1	1.38	10	48.00	1.00	5.4	3.6	0.33	....	......	10
5	5	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2	0.75	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	5	1	1.66	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	2.5	0.75	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	4	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10

†First 30 hours per kw-hr.
††Next 70 hours per kw-hr.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
Caledonia	32.38	33–66	60	2.5	1.25	0.83	10
Campbellville	62.90	33–66	40	6	2	2.22	10
Cannington	43.54	33–66	55	3	1.5	1.11	10
Cardinal	41.65	33–66	50	3.5	2	1.39	10
Carleton Place T	37.06	33–66	50	3.5	2	0.83	10
Cayuga	53.88	33–66	45	5	2	1.66	10
Chatham C	31.03	33–66	60	2.5	1.1	0.83	10
Chatsworth	48.16	33–66	40	5.5	2	1.67	10
Chesley	37.54	33–66	55	3	1.5	1.11	10
Chesterville	43.07	33–66	55	3	1.5	0.83	10
Chippawa	25.87	33–66	60	2.5	1.25	1.11	10
Clifford	67.08	33–66	50	5	2	1.66	10
Clinton	39.01	33–66	60	2.5	1.5	1.11	10
Cobourg T	40.91	33–66	50	3.7	2	0.83	10
Colborne	40.96	33–66	60	5	2	0.83	10
Coldwater	42.92	33–66	55	2.5	1.25	1.11	10
Collingwood T	41.11	33–66	55	2.5	1	0.83	10
Comber	48.97	33–66	50	4	2	1.38	10
Cookstown	52.79	33–66	35	7	2	1.67	10
Cottam	43.96	33–66	50	4	2	1.66	10
Courtright	80.29	33–66	50	6	2	2.22	10
Creemore	57.27	33–66	45	5	2	1.66	10
Dashwood	53.06	33–66	45	4.5	2	1.11	10
Delaware	38.75	33–66	50	3.5	2	1.11	10
Deseronto	59.37	33–66	50	5	2	1.11	10
Dorchester	41.94	33–66	60	2.5	1.4	0.83	10
Drayton	63.71	33–66	55	3.5	1.5	1.11	10
Dresden	44.87	33–66	60	2.5	1.25	1.11	10
Drumbo	41.97	33–66	50	4	1.5	1.11	10
Dublin	60.93	33–66	60	6	2	1.67	10
Dundalk	39.82	33–66	55	3	1.5	1.11	10
Dundas T	27.09	33–66	60	2	1	0.83	10
Dunnville T	30.55	33–66	60	2.5	1.25	0.83	10
Durham	42.47	33–66	50	2.5	1.25	0.83	10
Dutton	37.29	33–66	60	2.3	1.1	0.83	10
East Windsor C	32.37	......	60	3.6	1.2	0.83	10
East York twp.	32.29	33–66	60	2.2	1.2	0.83	10
Elmira T	35.88	33–66	60	3	1.25	0.83	10
Elmvale	40.99	33–66	55	3	1.5	0.83	10
Elmwood	43.23	33–66	45	5	2	1.39	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

"E"—Continued

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	2.5	0.75	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	6	1	2.22	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	3	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	3.5	1	1.39	10	40.00	1.00	4.3	2.8	0.33	min. 3.33	......	10
5	3.5	1	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	5	1	1.66	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	5.5	1	1.67	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	3	1	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.5	0.75	1.11	10	25.00	1.00	2	1.3	0.33	....	......	10
5	5	1	1.66	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	2.5	1	1.11	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	3.7	1	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	5	1	0.83	10	39.00	1.00	4.1	2.7	0.33	....	......	10
5	2.5	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.5	1	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	4	1	1.38	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	7	1	1.67	10	43.00	1.00	4.7	3.1	0.33	....	......	10
5	4	1	1.66	10	43.00	1.00	4.7	3.1	0.33	min. 2.22	......	10
7.5	6	1	2.22	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	5	1	1.66	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	4.8	1	1.11	10	48.00	1.00	5.4	3.6	0.33	....	......	10
5	3.5	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	5	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.5	1	0.83	10	34.00	1.00	3.4	2.2	0.33	....	......	10
5	3.5	0.75	1.11	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	2.5	0.75	1.11	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	4	1	1.11	10	44.00	1.00	4.8	3.2	0.33	....	......	10
5	6	1	1.67	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	3	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2	0.6	0.83	10	19.00	1.00	2	1.4	0.33	....	25	10
5	2.5	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	2.5	1	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	2.3	0.75	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.2	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	3	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	3	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	5	1	1.39	10	45.00	1.00	4.9	3.3	0.33	....	......	10

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate: Number of kw-hr. per month	First rate: Per kw-hr. per month	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
	$ c.	cents		cents	cents	$ c.	%
Elora	37.85	33-66	55	3	1.5	1.11	10
Embro	45.68	33-66	55	3.2	1.5	1.67	10
Erieau	53.58	33-66	45	5	2	1.67	10
Erie Beach	65.98	33-66	50	7	2	1.94	10
Essex	36.06	33-66	60	2.5	1.2	0.83	10
Etobicoke twp.	28.08	33-66	60	2.2	1.2	0.83	10
Exeter	39.54	33-66	55	3	1.5	0.83	10
Fergus	37.38	33-66	55	3	1.5	1.11	10
Finch	65.53	33-66	40	4	2	1.66	10
Flesherton	46.92	33-66	55	3.5	1.5	1.11	10
Fonthill	33.59	33-66	55	3	1.5	1.38	10
Forest	46.44	33-66	55	3.5	1.5	1.11	10
Fort William C	26.82	33-66	50	2.5	1	0.83	10
Galt C	28.80	33-66	60	2.5	1.25	0.83	10
Gamebridge	......	33-66	45	5	2	1.67	10
Georgetown T	36.85	33-66	60	2.2	1.1	0.83	10
Glencoe	57.68	33-66	55	3.5	2	1.11	10
Glen Williams	......	33-66	60	3	1.5	0.83	10
Goderich T	43.37	33-66	55	3	1.5	0.83	10
Grand Valley	56.59	33-66	45	5	2	1.39	10
Granton	54.67	33-66	55	3	1.5	1.11	10
Gravenhurst	25.14	33-66	60	2	1	0.83	10
Guelph C	28.96	33-33	60	2	1	0.83	10
Hagersville	35.50	33-66	60	2	1	0.83	10
Hamilton C	25.84	33-66	60	2	1	0.83	10
Hanover T	33.98	33-66	55	3	1.5	0.83	10
Harriston	47.31	33-66	55	4	1.5	1.11	10
Harrow	39.01	33-66	55	2.8	1.3	0.83	10
Hastings	50.75	33-66	45	5	2	1.94	10
Havelock	52.26	33-66	50	5	2	0.83	10
Hensall	52.63	33-66	55	3.5	1.5	1.11	10
Hespeler T	29.14	33-66	60	2.7	1.5	0.83	10
Highgate	46.73	33-66	50	4	2	1.11	10
Holstein	115.90	33-66	60	9	5	1.67	10
Humberstone	29.30	33-66	60	2.5	1.25	0.83	10
Huntsville T	31.51	33-66	55	2.5	1.25	0.83	10
Ingersoll T	30.71	33-66	60	2	1.2	0.83	10
Jarvis	45.79	33-66	50	4	2	1.11	10
Kemptville	41.78	33-66	50	3.5	2	0.83	10
Kincardine T	52.59	33-66	40	4	2	1.11	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

"E"—Continued

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	3	0.75	1.11	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	3.2	1	1.67	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	5	1	1.67	10	50.00	1.00	5.7	3.8	0.33	min. 2.22	......	10
5	7	1	1.94	10	60.00	1.00	7.2	4.8	0.33	....	......	10
5	2.5	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2.2	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	3	0.75	0.83	10	29.00	1.00	2.6	1.7	0.33	....	......	10
5	3	0.75	1.11	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	4	1	1.94	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	3.5	1	1.11	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	3	0.75	1.38	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3.5	0.75	1.11	10	42.00	1.00	4.6	3	0.33	....	......	10
5	2.5	1	0.83	10	22.00	1.00	1.75	1	0.1	....	......	10
5	2.5	0.6	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	5	1	1.67	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	2.2	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	3.5	1	1.11	10	48.00	1.00	5.4	3.6	0.33	....	......	10
5	3	0.75	0.83	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	3	0.75	0.83	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	5	1	1.39	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	3	1	1.11	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	2	1	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	2	0.5	0.83	10	15.00	1.00	1.3	0.8	0.33	....	25	10
5	2	0.75	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
	†3.5 ††1.75	0.35	0.83	10	20.00	1.00	1.67	1.11	0.133	....	10	10
5	3	1	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	4	1	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	2.8	1	0.83	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	5	2	1.94	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	5	1	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	3.5	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	2.7	0.75	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	4	1	1.11	10	38.00	1.00	4	2.6	0.33	....	......	10
5	9	5	1.67	10	74.00	1.00	9.3	6.2	0.33	....	......	10
5	2.5	0.75	0.83	10	29.00	1.00	2.6	1.7	0.33	....	......	10
5	2.5	1	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	2	0.6	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	4	0.75	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3.5	1	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	4	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10

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†First 30 hours per kw-hr.
††Next 70 hours per kw-hr.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
Kingston . . . C	24.00-36.00	33-66	50	2	1	0.83	10
Kingsville . . . T	38.85	33-66	55	2.8	1.2	0.83	10
Kirkfield	63.77	33-66	40	6	2	2.22	10
Kitchener . . . C	28.16	33-66	60	2	1.2	0.83	10
Lakefield	47.65	33-66	50	3	2	0.83	10
Lambeth	41.46	33-66	50	3.5	1.5	1.11	10
Lanark	50.16	33-66	50	4	2	0.83	10
Lancaster	89.33	33-66	60	6	2	1.94	10
La Salle	35.60	33-66	50	3.5	1.75	1.11	10
Leamington . . . T	38.42	33-66	55	2.6	1.25	0.83	10
Leaside	......	*3	..	**2	1.5	0.83	10
Lindsay . . . T	42.46	33-66	40	3	1.5	0.83	10
Listowel . . . T	38.80	33-66	60	2.5	1.25	1.11	10
London . . . C	27.02	33-66	60	2	1	0.83	10
London twp.	34.03	33-66	55	2.8	1.3	1.11	10
Long Branch . . . T	29.74	33-66	60	2.2	1.2	0.83	10
Lucan	38.61	33-66	55	3.2	1.3	1.11	10
Lucknow	59.68	33-66	45	4.5	2	1.67	10
Lynden	39.21	33-66	55	3.5	1.5	1.38	10
Madoc	49.36	33-66	50	4	2	0.83	10
Markdale	37.91	33-66	55	3	1.5	1.11	10
Markham	41.55	33-66	55	3.5	1.5	1.11	10
Marmora	50.43	33-66	60	5	2	1.11	10
Martintown	51.40	33-66	40	6	2	1.66	10
Maxville	64.42	33-66	60	6	2	1.66	10
Meaford . . . T	44.97	33-66	55	3	1.5	0.83	10
Merlin	47.42	33-66	50	4.5	2	1.11	10
Merritton . . . T	23.90	33-66	60	2	1	0.83	10
Midland . . . T	33.54	33-66	60	2	1	0.83	10
Mildmay	46.69	33-66	40	5	2	1.67	10
Milton	36.95	33-66	55	3	1.5	0.83	10
Milverton	36.84	33-66	60	3	1.5	1.11	10
Mimico . . . T	26.84	33-66	60	2.4	1.2	0.83	10
Mitchell	34.34	33-33	60	2.5	1.5	0.83	10
Moorefield	66.06	33-66	50	4.5	2	1.39	10
Mount Brydges	41.66	33-66	55	2.8	1.3	1.11	10
Mount Forest	47.18	33-66	60	2.25	1.25	0.83	10
Napanee . . . T	39.05	33-66	50	3.8	2	0.83	10
Neustadt	111.65	33-66	60	8	2	1.67	10
Newbury	53.77	33-66	45	5	2	1.38	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently nstalled appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

*Service charge per 100 sq. ft.

**Per kw-hr. for first 3 kw-hr. per 100 sq. ft.

"E"—Continued

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	2	0.75	0.83	10	20.00	1.00	1.5	1	0.33	....	10	10
5	2.8	0.75	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	6	1	2.22	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	2	0.75	0.83	10	19.00	1.00	2	1.4	0.33	....	25	10
5	3	1	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	3.5	1	1.11	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	4	1	1.11	10	60.00	1.00	7.2	4.8	0.33	....	......	10
5	6	1	2.78	10	69.00	1.00	8.6	5.7	0.33	....	......	10
5	3.5	1	1.11	10	33.00	1.00	3.2	2.1	0.33	....	......	10
5	2.6	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
......	§4 & 2	1	0.83	10	23.28	1.00	1.8	1.1	0.33	....	......	10
5	3	1	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	2.5	0.75	1.11	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	2	0.5	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	2.8	0.75	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.2	0.6	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	3.2	0.75	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	4.5	1	1.67	10	43.00	1.00	4.7	3.1	0.33	....	......	10
5	3.5	1.5	0.83	10	32.00	1.00	3.1	2	0.33	....	......	10
5	4	1	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	3	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.5	1	1.11	10	38.00	1.00	4	2.6	0.33	....	......	10
5	5	1	1.11	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	6	1	2.22	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	6	1	2.22	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	3	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	4.5	1	1.11	10	37.00	1.00	3.8	2.5	0.33	min. 2.22	......	10
5	2	0.75	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	2	1	0.83	10	17.00	1.00	1.7	1.1	0.33	....	25	10
5	5	1	1.67	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	3	0.75	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	3	1	1.11	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	2.4	0.6	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
5	2.5	0.75	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	4.5	1	1.11	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	2.8	0.75	1.11	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	2.25	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.8	1	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	8	1	1.67	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	5	1	1.38	10	53.00	1.00	6.2	4.1	0.33	....	......	10

§First 70 hours 4 cents per kw-hr.
Next 70 hours 2 cents per kw-hr.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horsepower basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
New Hamburg......	34.96	33-66	60	3	1.5	0.83	10
New Toronto.......T	29.56	33-66	60	2	1.1	0.83	10
Niagara Falls.......C	21.78	33-66	60	2	1	0.92	10 & 10
Niagara-on-the-Lake..	27.81	33-66	60	2.5	1.25	0.83 to 1.11	10
Nipigon twp.........	37.43	33-66	55	3.5	1.25	1.39	10
North York twp......	32.43	33-66	55	3.5	1.5	1.11	10
Norwich............	35.68	33-66	60	2.5	1.25	0.83	10
Norwood............	42.90	33-66	50	5	2	1.11	10
Oil Springs..........	42.69	33-66	50	4	2	1.11	10
Omemee............	......	33-66	60	4	2	1.11	10
Orangeville.........T	47.74	33-66	55	3	1.5	1.11	10
Oshawa............C	40.46	33-66	40	3.5	1.5	0.83	10
Ottawa............C	14.82	33-66	60 60	2 1	0.5	0.83	10
Otterville...........	48.11	33-66	55	3	1.5	1.11	10
Owen Sound........C	34.00	33-66	60	2.5	1	0.83	10
Paisley.............	59.14	33-66	45	5	2	1.67	10
Palmerston..........	41.79	33-66	60	2.7	1.5	1.11	10
Paris..............T	29.25	33-66	60	2	1	0.83	10
Parkhill............	62.82	33-66	50	4.5	2	1.38	10
Penetanguishene....T	37.97	33-66	55	3	1.5	0.83	10
Perth..............T	34.34	33-66	55	3	1	0.83	10
Peterborough.......C	33.36	33-66	50	2.5	1.25	0.83	10
Petrolia............T	38.44	33-66	60	2.5	1.25	0.83	10
Picton.............T	47.83	33-66	60	2.5	1.25	0.83	10
Plattsville...........	52.99	33-66	45	5	2	1.66	10
Point Edward.......	38.20	.....	60	3.7	1.3	0.83	10
Port Arthur........C	26.28	33-66	30	2	1	0.83	10 & 10
Port Colborne......T	28.57	33-66	60	2.5	1.25	0.83	10
Port Credit.........	35.28	33-66	60	2.2	1.2	0.83	10
Port Dalhousie.......	31.18	33-66	60	2.2	1.2	0.83	10
Port Dover..........	36.89	33-66	50	3	1.25	1.11	10
Port Elgin..........	40.06	33-66	40	3.5	2	1.39	10
Port Hope.........T	41.45	33-66	60	3.5	2	0.83	10
Port McNicoll.......	39.02	33-66	50	3.5	1.5	0.83	10
Port Perry..........	52.43	33-66	50	3.5	1.5	1.11	10
Port Rowan.........	60.63	33-66	60	6	2	1.66	10
Port Stanley.........	38.15	33-66	55	3	1.5	0.83	10
Prescott...........T	33.07	33-66	60	2	1	0.83	10
Preston............T	28.31	33-66	60	2.5	1.25	0.83	10
Priceville..........	66.84	33-66	60	8	2	1.67	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

"E"—Continued

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	3	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2	0.6	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	2	0.35	0.88	15	15.00	1.00	1.3	0.8	0.33	....	25	10
5	2.5	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	min. 2.00	......	10
5	3.5	1	1.39	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	3.5	0.75	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.5	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	5	1	1.11	10	38.00	1.00	4	2.6	0.33	....	......	10
5	4	1	1.11	10	34.00	1.00	3.4	2.2	0.33	....	......	10
5	4	1	1.11	10	37.00	1.00	3.8	2.5	0.33	....	......	10
5	3	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.5	1	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
......	†5 ††2.2	0.5	0.83	10	20.00	1.00	1.8	1.2	0.15	....	15	10
5	3	1	1.11	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	2.5	1	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	5	1	1.67	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	2.7	1	1.11	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2	0.75	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	4.5	1	1.38	10	48.00	1.00	5.4	3.6	0.33	....	......	10
5	3	1	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	3	1	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.5	1	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	2.5	0.75	0.83	10	29.00	1.00	2.6	1.7	0.33	....	......	10
5	2.5	1	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	5	1	1.66	10	48.00	1.00	5.4	3.6	0.33	min. 2.00	......	10
5	2.8	0.75	0.83	10	27.00	1.00	2.3	1.5	0.33	....	......	10
5	2	0.5	0.83	10 & 10	22.00	1.00	1.75	1	0.1	....	......	10
5	2.5	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2.2	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	2.2	0.75	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	3	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.5	1	1.39	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.5	1	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	3.5	1	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	3.5	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	6	2	1.66	10	60.00	1.00	7.2	4.8	0.33	....	......	10
5	3	0.75	0.83	10	37.00	1.00	3.8	2.5	0.33	min. 1.11	......	10
5	2	1	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
5	2.5	0.75	0.83	10	19.00	1.00	2	1.4	0.33	....	25	10
5	8	1	1.67	10	50.00	1.00	5.7	3.8	0.33	....	......	10

†First 30 hours per kw-hr.
††Next 70 hours per kw-hr.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
Princeton	47.20	33–66	50	3.5	2	1.66	10
Queenston	28.63	33–66	65	3	1.5	1.38	10
Richmond	58.21	33–66	35	6	2	1.95	10
Richmond Hill	31.37	33–66	60	2.5	1.25	0.83	10
Ridgetown	38.90	33–66	60	2.2	1.25	0.83	10
Ripley	76.33	33–66	50	7	2	1.67	10
Riverside T	34.61	.....	55	4.2	1.5	0.83	10
Rockwood	42.52	33–66	60	2.7	1.25	1.11	10
Rodney	49.31	33–66	55	3	1.5	0.83	10
Rosseau	109.17	*33	..	8	2	*2.22	10
Russell	63.84	33–66	50	6	2	1.39	10
St. Catharines C	24.02	33–66	30–60	2	1	0.83	10
St. Clair Beach	40.54	......	55	5.2	1.75	1.66	10
St. George	41.14	33–66	60	2.5	1.25	0.83	10
St. Jacobs	35.52	33–66	60	3	1.5	1.11	10
St. Marys T	36.51	33–66	60	2.5	1.5	1.11	10
St. Thomas C	28.47	33–66	60	2	1	0.83	10
Sandwich T	32.58	.....	60	3.6	1.2	0.83	10
Sarnia C	33.41	.....	60	3.5	1.1	0.83	10
Scarboro twp.	31.38	33–33	60	2.6	1.3	0.83	10
Seaforth	36.66	33–66	60	2.5	1.25	0.83	10
Shelburne	48.19	33–66	50	3	1.5	1.11	10
Simcoe T	30.33	33–66	60	2	1.25	0.83	10
Smiths Falls T	31.86	33–66	55	3	1.5	0.83	10
Southampton	39.28	33–66	40	3.5	2	1.39	10
Springfield	50.17	33–66	55	3.5	1.5	1.11	10
Stamford twp.	22.48	33–66	60	2.25	1.25	0.83	10
Stayner	43.16	33–66	55	2.5	1.25	0.83	10
Stirling	33.62	33–66	45	2.5	1.25	0.83	10
Stouffville	45.95	33–66	55	3.2	1.5	1.11	10
Stratford C	30.38	33–66	60	2.3	1.25	0.83	10
Strathroy T	32.48	33–66	60	2.5	1.25	0.83	10
Sunderland	61.12	33–66	45	5	2	1.39	10
Sutton	53.99	33–33	50	4	2	1.11	10
Tara	46.27	33–66	40	4	2	1.11	10
Tavistock	36.35	33–66	60	2.5	1.25	0.83	10
Tecumseh T	38.46	.....	55	4.7	1.75	1.11	10
Teeswater	58.13	33–66	60	5	2	1.67	10
Thamesford	41.53	33–66	60	2.4	1.2	1.11	10
Thamesville	40.36	33–66	55	3	1.25	0.83	10
Thedford	66.36	33–66	50	6	2	1.66	10
Thorndale	65.17	33–66	50	4	2	1.38	10
Thornton	70.45	33–66	60	8	2	1.67	10
Thorold T	25.66	33–66	60	2	1	0.83	10
Tilbury	39.42	33–66	60	2.2	1.2	0.83	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

*According to consumers' demand.

"E"—Continued

Domestic Service—Commercial Light Service—Power Service Service by the Hydro-Electric Power Commission

Commercial light service					Power service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	3.5	1	1.66	10	42.00	1.00	4.6	3	0.33	....	......	10
5	3	1	1.38	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	6	1	2.22	10	60.00	1.00	7.2	4.8	0.33	....	......	10
5	2.5	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	2.2	0.75	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
5	7	1	1.67	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	3	0.8	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2.7	0.75	1.11	10	42.00	1.00	4.6	3	0.33	....	......	10
5	3	0.75	0.83	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	8	2	*2.22	10	58.00	1.00	6.9	4.6	0.33	....	......	10
5	5	1	1.94	10	56.00	1.00	6.6	4.4	0.33	....	......	10
......	†3.5 ††1.75	0.35	0.83	10	17.00	1.00	1.67	1.13	0.16	....	25	10
5	4	1	1.66	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	2.5	0.75	0.83	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3	1	1.11	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	2.5	0.75	1.11	10	27.00	1.00	2.3	1.5	0.33	....	......	10
5	2	0.5	0.83	10	17.00	1.00	1.7	1.1	0.33	....	25	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.4	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
5	2.4	0.6	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.5	0.75	0.83	10	29.00	1.00	2.6	1.7	0.33	....	......	10
5	3	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	3	1	0.83	10	26.00	1.00	2.2	1.4	0.33	....	......	10
5	3.5	1	1.39	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	3.5	1	1.11	10	42.00	1.00	4.6	3	0.33	....	......	10
5	2.25	0.6	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	2.5	1	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2.5	1	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	3.2	1	1.11	10	43.00	1.00	4.7	3.1	0.33	....	......	10
5	2.3	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	2.5	0.75	0.83	10	27.00	1.00	2.3	1.5	0.33	....	......	10
5	5	1	1.39	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	4	1	1.11	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	4	1	1.11	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	2.5	0.75	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	3.5	0.8	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	5	1	1.67	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	2.4	0.75	1.11	10	29.00	1.00	2.6	1.7	0.33	....	......	10
5	3	0.75	0.83	10	32.00	1.00	3.1	2	0.33	....	......	10
7.5	6	1	1.66	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	4	1	1.38	10	48.00	1.00	5.4	3.6	0.33	....	......	10
5	8	1	1.67	10	58.00	1.00	6.9	4.6	0.33	....	......	10
5	2	0.5	0.83	10	18.00	1.00	1.9	1.3	¶0.33 0.295	....	25	10
5	2.2	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10

†First 30 hours per kw-hr.
††Next 70 hours per kw-hr.

¶Next 260 hours per kw-hr.

STATEMENT

Cost of Power to Municipalities and Rates to Consumers for for the Year 1933, in Urban Municipalities

Municipality C—City T—Town (pop. 2,000 or more)	Annual cost to the Commission on the works to serve electrical energy to municipality on a horse-power basis	Domestic service					
		Service charge per month	First rate		All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount
			Number of kw-hr. per month	Per kw-hr. per month			
	$ c.	cents		cents	cents	$ c.	%
Tillsonburg.........T	33.89	33–66	60	2	1.2	0.83	10
Toronto............C	26.59	*3	..	**2	1	0.83	10
Toronto twp..........	31.91	33–66	55	2.7	1.3	1.11	10
Tottenham...........	84.78	33–66	30	7	2	1.67	10
Trafalgar twp., Area 1	......	55	60	3.5	2	1.11	10
Trafalgar twp., Area 2	......	44–66	55	3.5	2	1.38	10
Trenton............T	30.99	33–66	50	3.5	1.5	0.83	10
Tweed..............	63.00	33–33	60	5.5	2	1.11	10
Uxbridge............	54.46	33–66	50	3.5	1.5	1.11	10
Victoria Harbour.....	42.74	33–66	55	3	1.5	1.11	10
Walkerton.........T	36.02	33–66	50	3.5	2	1.11	10
Walkerville.........T	29.55	.....	60	3.6	1.2	0.83	10
Wallaceburg........T	37.45	33–66	60	2.5	1.2	0.83	10
Wardsville..........	61.68	33 66	40	6	2	1.66	10
Warkworth..........	52.06	33–66	50	5	2	1.55	10
Waterdown.........	32.60	33–66	60	2.5	1.25	0.83	10
Waterford...........	31.57	33–66	60	2	1	0.83	10
Waterloo...........T	28.88	33–66	60	2	1.25	0.83	10
Watford............	50.77	33–66	50	4	2	1.11	10
Waubaushene........	43.66	33–66	55	2.5	1.25	1.11	10
Welland...........C	24.65	33–66	60	2.2	1.1	0.83	10
Wellesley...........	49.86	33–66	50	4	2	1.11	10
Wellington..........	46.70	33–66	50	2.5	1.25	0.83	10
West Lorne.........	40.51	33–66	55	3	1.5	0.83	10
Weston............T	27.27	33–66	60	2	1	0.83	10
Westport...........	78.25	33–66	30	7	2	2.78	10
Wheatley...........	53.39	33–66	50	4	1.5	1.39	10
Whitby............T	39.92	33–66	60	3	1.25	0.94	20
Wiarton............	69.21	33–66	40	5	2	1.67	10
Williamsburg........	36.21	33–66	60	3	2	1.39	10
Winchester..........	40.09	33–66	60	2.5	1.25	0.83	10
Windermere.........	66.41	‡33	..	8	2	‡2.22	10
Windsor...........C	29.38	.....	60	3.6	1.2	0.83	10
Wingham..........T	61.38	33–66	45	4	1.5	1.11	10
Woodbridge.........	34.32	33–66	55	3	1.5	0.83	10
Woodstock.........C	28.81	33–66	60	2	1	0.83	10
Woodville...........	56.78	33–66	50	4	2	1.11	10
Wyoming...........	52.61	33–66	50	4.5	2	1.38	10
York tp. (inc. Swansea and Forest Hill)....	......	33–66	60	2	1.3	0.83	10
Zurich.............	65.43	33–66	50	4.5	2	1.38	10

NOTE.—Domestic service charge—33 cents per month per service when the permanently installed appliance load is under 2,000 watts and 66 cents per month when over 2,000 watts.

*Service charge per 100 sq. ft.

**Per kw-hr. for first 3-kw-hr. per 100 sq. ft.

"E"—Concluded

Domestic Service—Commercial Light Service—Power Service Served by the Hydro-Electric Power Commission

Commercial light service					Power light service							
Service charge per 100 watts min. 1,000 watts	First 100 hrs. per month per kw-hr.	All additional per kw-hr.	Minimum gross monthly bill	Prompt payment discount	Basis of rate 130 hours monthly use of demand	Service charge per h.p. per month	First 50 hr. per month per kw-hr.	Second 50 hr. per month per kw-hr.	All additional per kw-hr.	Minimum or maximum per h.p. per month	Local discount	Prompt payment discount
cents	cents	cents	$ c.	%	$ c.	$ c.	cents	cents	cents	$ c.	%	%
5	2	0.6	0.83	10	24.00	1.00	2.3	1.5	0.33	....	10	10
......	§4&2	1	0.83	10	......	D.C.a	2.5	1.25	0.60	....	......	10
						A.C.b	1.5	0.75	0.33	....	......	10
5	2.7	0.7	1.11	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	7	1	1.67	10	45.00	1.00	4.9	3.3	0.33	....	......	10
......	†8 ††4	1	1.11	10	37.00	1.00	3.5	2.3	1	....	......	10
5	3.5	1.5	1.38	10	38.00	1.00	3.5	2.3	1.5	....	......	10
5	3.5	1	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	5.5	1	1.11	10	32.00	1.00	3.1	2	0.33	....	......	10
5	3.5	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	3	1	1.11	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5	3.5	1	1.11	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	2.5	0.7	0.83	10	25.00	1.00	2	1.3	0.33	....	......	10
5	6	1	1.66	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	5	1	1.55	10	45.00	1.00	4.9	3.3	0.33	....	......	10
5	2.5	0.75	0.83	10	28.00	1.00	2.5	1.6	0.33	....	......	10
5	2	0.75	0.83	10	20.00	1.00	1.6	1	0.33	....	10	10
5	2.25	1	0.83	10	19.00	1.00	2	1.4	0.33	....	25	10
5	4	1	1.11	10	43.00	1.00	4.7	3.1	0.33	....	......	10
5	2.5	1	1.11	10	33.00	1.00	3.2	2	0.33	....	......	10
5	2.2	0.6	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	4	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	2.5	1	0.83	10	36.00	1.00	3.7	2.4	0.33	....	......	10
5	3	1	0.83	10	30.00	1.00	2.8	1.8	0.33	....	......	10
5	2	0.6	0.83	10	18.00	1.00	1.9	1.2	0.33	....	25	10
5	7	1	‡2.78	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	4	1	1.39	10	40.00	1.00	4.3	2.8	0.33	....	......	10
5.6	3	1	0.94	20	25.00	1.00	2	1.3	0.33	....	......	10
5	5	1	1.67	10	43.00	1.00	4.7	3.1	0.33	....	......	10
5	3	1	1.39	10	55.00	1.00	6.5	4.3	0.33	....	......	10
5	2.5	1	0.83	10	50.00	1.00	5.7	3.8	0.33	min. 2.22	......	10
5	8	2	‡2.22	10	58.00	1.00	6.9	4.6	0.33	....	......	10
5	2.5	0.8	0.83	10	23.00	1.00	2.1	1.4	0.33	....	10	10
5	4	1	1.11	10	38.00	1.00	4	2.6	0.33	....	......	10
5	3	1	0.83	10	22.00	1.00	1.9	1.3	0.33	....	10	10
5	2	0.5	0.83	10	17.00	1.00	1.7	1.1	0.33	....	25	10
5	4	1	1.11	10	35.00	1.00	3.5	2.3	0.33	....	......	10
5	4.5	1	1.38	10	50.00	1.00	5.7	3.8	0.33	....	......	10
5	2	0.75	0.83	10	21.00	1.00	1.8	1.1	0.33	....	10	10
5	4.5	1	1.38	10	50.00	1.00	5.7	3.8	0.33	min. 2.77	......	10

†First 30 hours per kw-hr.

††Next 70 hours per kw-hr.

‡According to consumers' demand.

§First 70 hours, 4 cents per kw-hr. Next 70 hours, 2 cents per kw-hr.

a. D.C. Service charge $1.35 per h.p. for first 10 h.p., plus $1.00 per h.p., for additional h.p.

b. A.C. Service charge $1.25 per h.p. for first 10 h.p., plus $1.00 per h.p. for additional h.p.

ADDENDA

Page	
296	Brantford "Debenture balance" includes a balance of $158,000.00 on purchase agreement.
303	Hamilton "Other liabilities" includes a balance of $1,812,500.00 on purchase agreement.
342	Brantford, the statement includes earnings and expenses from other plants.

APPENDIX I

ACTS

CHAPTER 47

An Act to amend The Power Commission Act.

Assented to April 18th, 1933.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

1. This Act may be cited as *The Power Commission Act, 1933*. Short title.

2. Section 43*a* of *The Power Commission Act* as enacted by section 7 of *The Power Commission Act, 1930*, is repealed and the following substituted therefor: Rev. Stat., c. 57, s. 43*a* (1930), c. 12, s. 7), re-enacted.

43*a*.—(1) Where under the authority of the Lieutenant-Governor in Council, the Commission has acquired or constructed, is in the process of acquiring or constructing or may hereafter acquire or construct works for the generation, transmission or distribution of electric power or energy, wholly or partly in anticipation of a future demand for power in any of the territorial districts of the Province as set forth in *The Territorial Division Act*, and His Majesty and the Commission have entered into an agreement in relation thereto as provided in subsection 2, such works shall be held by the Commission in trust for His Majesty in right of the Province of Ontario. When title to undertakings in territorial districts to be in the Crown. Rev. Stat., c. 3.

(2) His Majesty the King may enter into an agreement or agreements with the Commission, relating to any or all of the works mentioned in subsection 1, providing for payment to the Commission out of the Consolidated Revenue Fund of the Province the amounts from time to time by which the Agreements between the Crown and the Commission as to undertakings in territorial districts.

revenues which have been or may hereafter be derived from such works are or may be insufficient to meet in full the annual costs and charges in connection therewith as determined by the Commission, including the items set forth in clauses *a*, *b* and *c* of section 56; and such agreement or agreements when executed by the President of the Executive Council representing His Majesty and the Commission shall be valid and binding on the Province and the Commission respectively.

Terms of agreements.

(3) Such agreement or agreements may provide the time and manner of such payments, the works in respect of which such payments are to be made, the rates of interest on any sums so paid and the repayment of the same out of any surplus thereafter arising from the revenue derived from such works and generally such other matters, things and conditions as may be necessary or incidental thereto.

Union of undertakings.

(4) For the purposes of this section all of such works may be treated as one or more units as the Commission may from time to time determine.

Municipal contracts.

(5) The Commission may contract with any municipal corporation or person for the supply of electric power or energy from such works at such rates and upon such terms and conditions as the Commission may deem proper.

By-law No. 860 of Town of Oakville, confirmed.

3. By-law number 860 of the corporation of the town of Oakville and agreement dated the 1st day of November, 1932, between the said corporation and the Commission authorized by and referred to in said by-law as schedule 1 thereto, are hereby ratified and confirmed and declared to be legal, valid and binding upon the said corporation and the ratepayers thereof, and upon the Commission, its successors and assigns.

By-laws confirmed.

4. By-law number 584 of the corporation of the village of Colborne; by-law number 10 of the corporation of the village of Mildmay, and all debentures issued or to be issued or purporting to be issued under any of the said by-laws which authorize the issue of debentures are confirmed and declared to be legal, valid and binding upon such corporations and ratepayers thereof respectively and shall not be open to question upon any ground whatsoever notwithstanding the requirements of *The Power Commission Act* or the amendments thereto or any other general or special Act.

Rev. Stat., c. 57.

Commencement of Act.

5. This Act shall come into force on the day upon which it receives the Royal Assent.

CHAPTER 1

An Act respecting the Acquisition of the Properties of Ontario Power Service Corporation.

Assented to April 18th, 1933.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

Short title.

1. This Act may be cited as *The Abitibi Canyon Power Development Act, 1933.*

Confirmation of purchase of Abitibi Canyon Power Development.

2. The acquisition and purchase by The Hydro-Electric Power Commission of Ontario in the action in the Supreme Court between Montreal Trust Company as plaintiff and Ontario Power Service Corporation Limited and others as defendants of all the real and personal property, assets and undertaking of Ontario Power Service Corporation Limited described in a Deed of Trust and Mortgage, dated 1st July, 1930, made by the said Corporation in favour of Montreal Trust Company, which includes an uncompleted power development at Abitibi Canyon on the Abitibi River, are hereby ratified and confirmed and the said Commission is authorized to do all acts and things necessary or desirable to complete such acquisition and purchase.

Settlement of claims.

3. Subject to the approval of the Lieutenant-Governor in Council the said Commission is hereby authorized to settle, compromise and pay on such terms as it may deem advisable all or any claims of contractors and other creditors of Ontario Power Service Corporation Limited.

Completion of works.

4. The said Commission is further authorized to complete in whole or in part at such time or times as it shall deem advisable the said power development.

Issue of securities and Provincial guarantee.

5. The said Commission is further authorized to issue bonds, debentures or other securities of the Commission for any of the purposes set out in this Act, in such form and containing such terms and at such rate of interest and payable in such manner and at such time or times as the Lieutenant-Governor in Council may determine, and the Lieutenant-Governor in Council is hereby authorized to agree to guarantee the payment of the principal and interest of any such bonds, debentures or other securities issued by the said Commission, and all of the provisions of section 37 of *The Power Commission Act* shall apply to any such bonds, debentures or other securities when so guaranteed.

Rev. Stat., c. 57.

Powers to be additional to Rev. Stat., c. 57. **6**. The provisions of this Act shall be deemed to be in addition to and not in derogation of any power of the said Commission under *The Power Commission Act.*

Commencement of Act. **7**. This Act shall come into force on the day upon which it receives the Royal Assent.

CHAPTER 28

The Manitoulin Rural Power District Act, 1933.

Assented to April 18th, 1933.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

Short title. **1**. This Act may be cited as *The Manitoulin Rural Power District Act, 1933.*

Application of Part IV of Rev. Stat., c. 57. **2**. Part IV of *The Power Commission Act* shall apply, and from and after the 1st day of September, 1932, shall be deemed to have applied to any municipality situate in the district of Manitoulin notwithstanding that such municipality is not a township, and any contract entered into between the corporation of any such municipality and the Commission since the 1st day of September, 1932, purporting to have been made pursuant to the said Part IV shall be legal, valid and binding upon the corporation and the ratepayers thereof.

Commencement of Act. **3**. This Act shall come into force on the day upon which it receives the Royal Assent.

APPENDIX II

TRANSMISSION LINE RECORDS

Corrected to October 31, 1933

including

Summaries of data respecting mileage of transmission lines built or acquired by the Hydro-Electric Power Commission. The sizes, materials, lengths, and weights of conductors, and other particulars of the high-voltage steel-tower transmission lines, the wood-pole transmission lines —excepting 4,000 volts or less—and the telephone lines.

TRANSMISSION LINE RECORDS—ALL SYSTEMS

The total mileage of lines built and acquired by the Commission up to October 31, 1933, for the various systems, excepting all lines operating at less than 4,000 volts, is indicated in the following table:

TOTAL MILEAGE OF TRANSMISSION LINES

System and type of construction	Miles
Niagara system—220,000-volt, steel-supported transmission lines	705.27
Northern Ontario properties—132,000-volt, steel-supported transmission lines	360.61
Niagara system—110,000-volt, steel-supported transmission lines	712.50
Niagara system—110,000-volt, wood-supported transmission lines	67.16
Eastern Ontario system—110,000-volt, steel-supported transmission lines	52.94
Eastern Ontario system—110,000-volt, wood-supported transmission lines	61.51
Thunder Bay system—110,000-volt, steel-supported transmission lines	82.12
Thunder Bay system—110,000-volt, wood-supported transmission lines	83.33
Thunder Bay system—22,000-volt, wood-supported transmission lines	0.35
Thunder Bay system—12,000-volt, wood-supported transmission lines	1.45
Georgian Bay system—110,000-volt, wood-supported transmission lines	55.83
Niagara system—90,000-volt, steel-supported transmission lines	66.20
Niagara system—60,000-volt, steel-supported transmission lines	69.88
Niagara system—60,000-volt, wood-supported transmission lines	23.72
Niagara system—46,000-volt, steel-supported transmission lines	16.94
Niagara system—46,000-volt, wood-supported transmission lines	21.54
Niagara system—30,000-volt, wood-supported transmission lines	13.29
Niagara system—26,400-volt, wood-supported transmission lines	606.62
Niagara system—13,200-volt, wood-supported transmission lines	435.44
Niagara system—12,000-volt, wood-supported transmission lines	115.04
Dominion Power system—44,000-volt, steel-supported transmission lines	36.30
Dominion Power system—44,000-volt, wood-supported transmission lines	141.55
Dominion Power system—22,000-volt, wood-supported transmission lines	28.54
Dominion Power system—22,000-volt, concrete-pole transmission lines	9.05
Dominion Power system—11,500-volt, wood-supported transmission lines	4.45
Dominion Power system—10,000-volt, wood-supported transmission lines	6.78
Georgian Bay system—(38,000-volt)	54.28
Georgian Bay system—(6,600-volt)	2.30
Georgian Bay system—	
Severn district—(22,000-volt)	177.01
Eugenia district—(22,000-volt)	320.59
Wasdells district—(22,000-volt)	83.72
Muskoka district—(38,000-volt and less)	26.46
Eastern Ontario system—	
Central Ontario district—(44,000-volt and less)	503.06
St. Lawrence district—(44,000-volt)	125.18
Rideau district—(26,400-volt)	76.87
Madawaska district—(33,000-volt and less)	58.71
Northern Ontario properties—	
Nipissing district—(22,000-volt)	51.39
Sudbury district—(22,000-volt)	33.23
Total	5,291.21
Total separate wood-pole telephone lines for high-voltage systems	1,131.06

NOTE.—Of the above, the Niagara system and some of the Northern Ontario properties are operated at 25 cycles. The other systems are operated at 60 cycles.

TRANSMISSION LINE RECORDS—ALL SYSTEMS

TOTAL MILEAGES AND WEIGHTS OF CONDUCTORS

	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933
High-voltage lines, 220,000 volts, Niagara system	2,111.67	4.14	2,115.81	11,371,343	22,294	11,393,637
High-voltage lines, 132,000 volts, Northern Ontario properties	1,134.00	1,029.66	2,163.66	3,141,180	4,424,302	7,565,482
High-voltage lines, 110,000 volts and less, Niagara system	5,207.37	1.96	5,209.33	16,172,986	8,030	16,181,016
High-voltage lines, 110,000 volts, Thunder Bay system	743.61	4.62	748.23	1,919,335	12,797	1,932,132
High-voltage lines, 110,000 volts, Eastern Ontario system	351.24	....	351.24	1,074,082	....	1,074,082
High-voltage lines, 110,000 volts, Georgian Bay system	176.01	....	176.01	227,268	....	227,268
Wood and steel power lines built and acquired by the Commission	9,755.93	49.80	9,805.73	9,666,302	38,147	9,704,449
Dominion Power system acquired by the Commission	817.42	....	817.42	1,521,082	....	1,521,082
Telephone lines built and acquired by the Commission and erected on wood-pole lines carrying power conductors	4,907.76	7.01	4,914.77	1,155,717	1,551	1,157,268
High-voltage telephone lines, Niagara system, 220,000 volts	426.90	....	426.90	82,230	....	82,230
High-voltage telephone lines, Northern Ontario properties, 132,000-volts	....	381.52	381.52	....	85,372	85,372
High-voltage telephone lines, Niagara system	3,353.34	....	3,353.34	577,924	....	577,924
High-voltage telephone lines, Eastern Ontario system	230.06	....	230.06	78,698	....	78,698
High-voltage telephone lines, Thunder Bay system	199.18	....	199.18	71,004	....	71,004
High-voltage telephone lines, Georgian Bay system	111.66	....	111.16	43,324	....	43,324
Totals	29,526.15	1,478.71	31,004.86	47,102,475	4,592,493	51,694,968

NOTE.—This table does not include lines operated at less than 6,600 volts.

NIAGARA SYSTEM—

TOTAL MILEAGE OF HIGH-VOLTAGE LINES

Type of construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
220,000-volt steel-supported transmission lines......	703.89	1.38	705.27

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
795,000 c.m., a.c.s-r..........................	2,111.67	4.14	2,115.81

NORTHERN ONTARIO PROPERTIES—ABITIBI

TOTAL MILEAGE OF HIGH-VOLTAGE LINES

Type of construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
132,000-volt, steel-supported transmission lines.....	189.00	171.61	360.61

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductor		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
715,500 c.m., a.c.s-r..........................	....	342.60	342.60
666,600 c.m., a.c.s-r..........................	....	342.60	342.60
500,000 c.m., a.c.s-r..........................	....	219.96	219.96
336,400 c.m., a.c.s-r..........................	1,134.00	....	1,134.00
211,600 c.m., a.c.s-r..........................	....	124.50	124.50
Totals..................................	1,134.00	1,029.66	2,163.66

Note.—a.s.c-r = Aluminum conductor steel-reinforced; weights include steel core.

220,000-VOLT TRANSMISSION LINES

TOTAL NUMBER OF STEEL TOWERS

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
220,000-volt towers	3,514	8	3,522

WEIGHT OF POWER CONDUCTOR

Weight in pounds			Miles of single-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
11,371,343	22,294	11,393,637	703.89	1.38	705.27

DISTRICT—132,000-VOLT TRANSMISSION LINES

TOTAL NUMBER OF STEEL TOWERS

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
132,000-volt towers	983	884	1,867

WEIGHT OF POWER CONDUCTOR

Weight in pounds			Miles of double-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
....	1,778,437	1,778,437	....	57.10	57.10
....	1,548,552	1,548,552	....	57.10	57.10
....	906,455	906,455	....	36.66	36.66
3,141,180	....	3,141,180	189.00	....	189.00
....	190,858	190,858	....	20.75	20.75
3,141,180	4,424,302	7,565,482	189.00	171.61	360.61

EASTERN ONTARIO SYSTEM—

TOTAL MILEAGE OF HIGH-VOLTAGE LINES

Type of Construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt, steel-supported transmission lines	52.94	....	52.94
110,000-volt, wood-supported transmission lines	61.51	....	61.51
Totals	114.45	....	114.45

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
477,000 c.m., a.c.s-r	278.25	....	278.25	962,188	....	962,188
211,600 c.m., a.c.s-r	72.99	....	72.99	111,894	....	111,894
Totals	351.24	....	351.24	1,074,082	....	1,074,082

NOTE.—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

HIGH-VOLTAGE TRANSMISSION LINES

TOTAL NUMBER OF STEEL TOWERS AND WOOD POLES

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt steel towers	299	....	299
110,000-volt wood poles	842	....	842
Totals	1,141	....	1,141

WEIGHT OF POWER CONDUCTORS

Miles of single-circuit lines			Miles of double-circuit lines			Total mileage single- and double-circuit lines Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
87.49	....	87.49	2.63	....	2.63	90.12
24.33	....	24.33	....	....	....	24.33
111.82	....	111.82	2.63	....	2.63	114.45

NIAGARA SYSTEM—

TOTAL MILEAGE OF HIGH-VOLTAGE LINES

Type of construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt steel-supported transmission lines	711.84	0.66	712.50
110,000-volt wood-supported transmission lines	67.16	....	67.16
90,000-volt steel-supported transmission lines	66.20	....	66.20
60,000-volt steel-supported transmission lines	69.88	....	69.88
60,000-volt wood-supported transmission lines	23.72	....	23.72
46,000 volt steel-supported transmission lines	16.94	....	16.94
46,000-volt wood-supported transmission lines	21.54	....	21.54
12,000 volt wood-supported transmission lines	0.23	....	0.23
Totals	977.51	0.66	978.17

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductor			Weight in pounds			Miles of single circuit lines		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
167,800 c.m., a.c.s-r	198.00	......	198.00	240,768	......	240,768	66.00	......	66.00
266,800 c.m., a.c.s-r	304.86	......	304.86	586,855	......	586,855	37.12	......	37.12
312,000 c.m., a.c.s-r	600.69	......	600.69	1,516,141	......	1,516,141	25.19	......	25.19
336,400 c.m., a.c.s-r	612.54	......	612.54	1,696,736	......	1,696,736	13.80	......	13.80
477,000 c.m., a.c.s-r	47.49	......	47.49	164,220	......	164,220	15.41	......	15.41
500,000 c.m., a.c.s-r	238.08	......	238.08	981,127	......	981,127	3.80	......	3.80
605.000 c.m., a.c.s-r	1,196.43	1.96	1,198.39	4,901,774	8,030	4,909,804	4.81	0.66	5.47
115,000 c.m., copper	25.32	......	25.32	47,196	......	47,196	8.44	......	8.44
133,079 c.m., copper	6.36	......	6.36	13,744	......	13,744			
167,800 c.m., copper	616.86	......	616.86	1,679,710	......	1,679,710	......	......	......
190,000 c.m., copper	752.04	......	752.04	2,382,463	......	2,382,463	7.24	......	7.24
211,600 c.m., copper	508.02	......	508.02	1,744,033	......	1,744,033	15.48	......	15.48
820,000 c.m., aluminum	36.06	......	36.06	146,620	......	146,620	12.02	......	12.02
5/16″ galv. steel	64.62	......	64.62	71,599	......	71,599	21.54	......	21.54
Totals	5,207.37	1.96	5,209.33	16,172,986	8,030	16,181,016	230.85	0.66	231.51

NOTE—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

HIGH-VOLTAGE TRANSMISSION LINES

TOTAL NUMBER OF STEEL TOWERS AND WOOD POLES

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt steel towers	6,550	5	6,555
110,000-volt wood poles	824	....	824
90,000-volt steel towers	409	....	409
60,000-volt steel towers	947	....	947
60,000-volt wood poles	641	....	641
46,000-volt steel towers	376	....	376
46,000-volt wood poles	672	....	672
12,000-volt wood poles	10	....	10
Totals	10,429	5	10,434

WEIGHT OF POWER CONDUCTORS

Miles of double-circuit			Miles of three-circuit			Miles of four-circuit			Total mileage one-, two-, three- and four-circuit lines at Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
....	....	....	....	....	....	....	....	....	66.00
32.25	....	32.25	....	....	....	....	....	....	69.37
87.52	....	87.52	....	....	....	....	....	....	112.71
95.19	....	95.19	....	....	....	....	....	....	108.99
0.21	....	0.21	....	....	....	....	....	....	15.62
37.78	....	37.78	....	....	....	....	....	....	41.58
191.94	....	191.94	....		....	2.53	....	2.53	199.94
....	....	....	....	....	....	....	....	....	8.44
1.06	....	1.06	....	....	....	....	....	....	1.06
102.81	....	102.81	....	....	....	....	....	....	102.81
121.72	....	121.72	....	....	....	....	....	....	128.96
52.91	....	52.91	15.48	....	15.48	0.40	....	0.40	84.27
....	....	....	....	....	....	....	....	....	12.02
....	....	....	....	....	....	....	....	....	21.54
723.39	....	723.39	15.48	....	15.48	2.93	....	2.93	973.31

THUNDER BAY SYSTEM—

MILEAGE OF HIGH-VOLTAGE LINES

Type of construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt steel-supported tramission lines	82.12	....	82.12
110,000-volt wood-supported transmission lines	81.79	1.54	83.33
22,000-volt wood-supported transmission lines	0.35	....	0.35
12,000-volt wood-supported transmission lines	1.45	....	1.45
Totals	165.71	1.54	167.25

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors			Weight in pounds		
	Completed Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
336,400 c.m., a.c.s-r	259.77	4.62	264.39	719,563	12,797	732,360
4/0 a.c.s-r (211,600 c.m.)	233.10	....	233.10	357,342	....	357,342
190,000 c.m. copper	2.61	....	2.61	8,268	....	8,268
4/0 copper (211,600 c.m.)	234.24	....	234.24	804,146	....	804,146
2/0 copper (133,079 c.m.)	13.89	....	13.89	30,016	....	30,016
Totals	743.61	4.62	748.23	1,919,335	12,797	1,932,132

NOTE—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

GEORGIAN BAY SYSTEM—

MILEAGE OF HIGH-VOLTAGE LINES

Type of construction	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt wood-supported transmission lines	55.83	....	55.83
Totals	55.83	....	55.83

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductor		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
3/0 a.c.s-r (167,800 c.m.)	167.49	....	167.49
336,400 c.m., a.c.s-r	8.52	....	8.52
Totals	176.01	....	176.01

NOTE—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

HIGH-VOLTAGE TRANSMISSION LINES

TOTAL NUMBER OF STEEL TOWERS AND WOOD POLES

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt steel towers	539	....	539
110,000-volt wood poles	1,320	32	1,352
22,000-volt wood poles	15	....	15
12,000-volt wood poles	61	....	61
Totals	1,935	32	1,967

WEIGHT OF POWER CONDUCTORS

Miles of single-circuit conductors			Miles of double-circuit conductors			Miles of three-circuit conductors			Total miles single-, double-, and three-circuit conductors at Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
77.50	1.54	79.04	4.20	....	4.20	0.23	....	0.23	83.47
77.70	....	77.70	....	....	....	....	....	....	77.70
0.87	....	0.87	....	....	....	....	....	....	0.87
78.08	....	78.08	....	....	....	....	....	....	78.08
4.63	....	4.63	....	....	....	....	....	....	4.63
238.78	1.54	240.32	4.20	....	4.20	0.23	....	0.23	244.75

HIGH-VOLTAGE TRANSMISSION LINES

TOTAL NUMBER OF WOOD POLES

Type	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
110,000-volt wood poles	548	....	548
Totals	548	....	548

WEIGHT OF POWER CONDUCTORS

Weight in pounds			Miles of single-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed to Oct. 31, 1933	Oct. 31, 1932 to Oct. 31, 1933
203,668	....	203,668	55.83	....	55.83
23,600	....	23,600	2.84	....	2.84
227,268	....	227,268	58.67	....	58.67

NIAGARA SYSTEM—WOOD-POLE TELEPHONE LINES

SIZE, MATERIAL, LENGTH AND WEIGHT

Size and material	Wire miles of conductors			Weight in pounds			Miles of single-circuit lines		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
No. 8 B. & S.G. copper	32.18	......	32.18	8,495	......	8,495	16.09	......	16.09
No. 9 B. & S.G. copper	862.18	......	862.18	180,196	......	180,196	160.87	......	160.87
No. 10 B. & S.G. copper	1,121.42	......	1,121.42	186,156	......	186,156	194.75	......	194.75
No. 11 B. & S.G. copper	107.68	......	107.68	14,214	......	14,214	53.84	......	53.84
No. 8 copper-clad steel.	68.74	......	68.74	16,498	......	16,498	2.71	......	2.71
No. 19 p-i. l-c. cable...	992.30	......	992.30	118,928	......	118,928	......	......	......
No. 22 p-i. l-c. cable...	34.00	......	34.00	1,885	......	1,885	......	......	......
No. 12 B. & S.G. iron.	2.84	......	2.84	468	......	468	1.42	......	1.42
6 x .0661 steel 1 x .0661 alum.	132.00	......	132.00	51,084	......	51,084	66.00	......	66.00
Totals...........	3,353.34	......	3,353.34	577,924	......	577,924	495.68	......	495.68

NOTE—B. & S.G. = Browne & Sharpe gauge.

FOR HIGH-VOLTAGE TRANSMISSION LINES

OF CONDUCTORS (Excluding 220,000-volt lines)

Miles of double-circuit lines			Miles of three-circuit lines			Miles of four-circuit lines			Miles of paper-insulated lead-covered copper cable			Total mileage 1-, 2-, 3-, 4-, and miscellaneous circuits at Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
......	......	......	......	......	......	......	......	......	......	......	......	16.09
123.01	......	123.01	......	......	......	6.05	......	6.05	......	......	......	289.93
169.36	......	169.36	9.08	......	9.08	......	......	......	......	......	......	373.19
......	......	......	......	......	......	......	......	......	......	......	......	53.84
15.83	......	15.83	......	......	......	......	......	......	......	......	......	18.54
......	......	......	......	......	......	......	......	......	14.62	......	14.62	14.62
......	......	......	......	......	......	......	......	......	0.34	......	0.34	0.34
......	......	......	......	......	......	......	......	......	......	......	......	1.42
......	......	......	......	......	......	......	......	......	......	......	......	66.00
308.20	......	308.20	9.08	......	9.08	6.05	......	6.05	14.96	......	14.96	833.97

NOTE—B.W.G. = Birmingham wire gauge.
p-i. l-c. cable = Paper-insulated lead-covered cable.

THUNDER BAY SYSTEM—WOOD-POLE TELEPHONE

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductor		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
3 x 12 galv. steel	13.24	....	13.24
3 x 13 galv. steel	159.12	....	159.12
No. 6 a.c.s-r	18.32	....	18.32
No. 10 copper-clad steel	8.50	....	8.50
Totals	199.18	....	199.18

Note—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

LINE FOR HIGH-VOLTAGE TRANSMISSION LINES

WEIGHT OF CONDUCTORS

Weight in pounds			Miles of single-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
6,544	....	6,544	6.62	....	6.62
59,670	....	59,670	79.56	....	79.56
3,481	....	3,481	9.16	....	9.16
1,309	....	1,300	4.25	....	4.25
71,004	....	71,004	99.59	....	99.59

WOOD AND STEEL TRANSMISSION AND TELEPHONE LINES

(Excluding High-Voltage Lines and the Dominion Power System)

TOTAL MILEAGE OF LINES AND NUMBER OF POLES

Lines	Miles completed		
	To Oct. 31, 1932	Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
Low-tension lines completed	2,666.45	16.60	2,683.05
Low-tension lines under construction	....	....	....
Single-circuit lines completed	2,094.98	16.60	2,111.58
Double-circuit lines completed	512.04	....	512.04
Three-circuit lines completed	59.10	....	59.10
Five-circuit lines completed	0.33	....	0.33
Single-circuit telephone lines completed	2,108.83	16.60	2,125.43
Double-circuit telephone lines completed	144.80	....	144.80
Three-circuit telephone lines completed	7.67	....	7.67
STEEL AND WOOD POLES			
Number of poles erected	100,951	556	101,507
Number of steel towers erected	21	....	21
Number of poles under construction	....	....	....

NIAGARA SYSTEM—TELEPHONE LINES

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933
No. 6 a.c.s-r.	368.04	....	368.04	69,928	....	69,928
No. 9 copper	58.86	....	58.86	12,302	....	12,302
Totals	426.90	....	426.90	82,230	....	82,230

EASTERN ONTARIO SYSTEM—

SIZE, MATERIAL, LENGTH AND

	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1931, to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1931, to Oct. 31, 1933	Total to Oct. 31, 1933
No. 9 copper	2.32	....	2.32	485	....	485
3 x .0661 aluminum. 4 x .0661 steel	128.48	....	128.48	39,700	....	39,700
1 x .0661 aluminum. 6 x .0661 steel	99.26	....	99.26	38,513	....	38,513
Totals	230.06	....	230.06	78,698	....	78,698

GEORGIAN BAY SYSTEM—TELEPHONE LINES

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932, to Oct. 31, 1933	Total to Oct. 31, 1933
1 x .0661 aluminum. 6 x .0661 steel	111.66	....	111.66	43,324	....	43,324
Totals	111.66	....	111.66	43,324	....	43,324

NOTE—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel.

FOR 220,000-VOLT LINES

WEIGHT OF CONDUCTORS

Miles of single-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
184.02	....	184.02
29.43	....	29.43
213.45	....	213.45

HIGH-VOLTAGE TELEPHONE LINES

WEIGHT OF CONDUCTORS

Miles of single-circuit lines			Miles of double-circuit lines			Total mileage of single-circuit and double-circuit lines at Oct. 31, 1933
Completed to Oct. 31, 1933	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1933	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
....	....	....	0.58	....	0.58	0.58
64.24	....	64.24	....	....	....	64.24
49.63	....	49.63	....	....	....	49.63
113.87	....	113:87	0.58	....	0.58	114.45

FOR HIGH-VOLTAGE TRANSMISSION LINES

WEIGHT OF CONDUCTORS

Miles of single-circuit lines		
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
55.83	....	55.83
55.83	....	55.83

WOOD-POLE

SUMMARY—

GAUGE, LENGTH AND

Size and material	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
1,035,500 c.m. aluminum	1.68	....	1.68	8,560	....	8,560
500,000 c.m. aluminum	113.04	....	113.04	278,078	....	278,078
345,000 c.m. aluminum	246.15	....	246.15	418,455	....	418,455
336,400 c.m. aluminum	11.40	....	11.40	18,924	....	18,924
300,000 c.m. aluminum	42.30	....	42.30	62,477	....	62,477
173,000 c.m. aluminum	53.52	....	53.52	45,760	....	45,760
4/0 aluminum (211,600 c.m.)	810.30	....	810.30	841,902	....	841,902
3/0 aluminum (167,800 c.m.)	1,981.32	....	1,981.32	1,632,608	....	1,632,608
2/0 aluminum (133,079 c.m.)	177.30	....	177.30	115,954	....	115,954
1/0 aluminum (105,534 c.m.)	646.08	....	646.08	334,669	....	334,669
No. 2 aluminum (66,373 c.m.)	302.13	....	302.13	98,494	....	98,494
477,000 c.m. a.c.s-r	103.80	....	103.80	358,940	....	358,940
605,000 c.m. a.c.s-r	0.45	....	0.45	1,844	....	1,844
336,400 c.m. a.c.s-r	160.14	....	160.14	443,588	....	443,588
125,000 c.m. a.c.s-r	233.34	....	233.34	211,406	....	211,406
4/0 a.c.s-r (211,600 c.m.)	474.78	....	474.78	727,838	....	727,838
3/0 a.c.s-r (167.800 c.m.	351.03	....	351.03	426,852	....	426,852
2/0 a.c.s-r (133,079 c.m.)	131.43	....	131.43	126,567	....	126,567
1/0 a.c.s-r (105,534 c.m.)	931.05	49.80	980.85	713,184	38,147	751,331
No. 2 a.c.s-r (66,373 c.m.)	1,438.17	....	1,438.17	690,322	....	690,322
No. 4 a.c.s-r (41,742 c.m.)	65.04	....	65.04	19,642	....	19,642
190,000 c.m. copper	101.31	....	101.31	320,950	....	320,950
115,000 c.m. copper	24.96	....	24.96	46,525	....	46,525
4/0 copper (211,600 c.m.)	7.28	....	7.28	24,992	....	24,992
3/0 copper (167,800 c.m.)	0.21	....	0.21	572	....	572
2/0 copper (133,079 c.m.)	233.46	....	233.46	504,507	....	504,507
1/0 copper (105,534 c.m.)	220.32	....	220.32	376,747	....	376,747
No. 1 copper (83,694 c.m.)	63.00	....	63.00	85,806	....	85,806
No. 2 copper (66,373 c.m.)	69.33	....	69.33	74,807	....	74,807
No. 3 copper (52,634 c.m.)	40.20	....	40.20	34,371	....	34,371
No. 4 copper (41,742 c.m.)	142.68	....	142.68	96,452	....	96,452
No. 6 copper (26,250 c.m.)	39.45	....	39.45	16,766	....	16,766
3 x 12 galv. steel (35,643 c.m.)	18.57	....	18.57	9,192	....	9,192
1/4″ galv. steel (48,223 c.m.)	44.10	....	44.10	29,106	....	29,106
9/32″ galv. steel (62,200 c.m.)	84.75	....	84.75	71,614	....	71,614
7/16″ galv. steel (153,000 c.m.)	0.30	....	0.30	657	....	657
5/16″ galv. steel (83,200 c.m.)	323.01	....	323.01	357,895	....	357,895
No. 6 galv. iron (41,000 c.m.)	68.55	....	68.55	39,279	....	39,279
Totals	9,755.93	49.80	9,805.73	9,666,302	38,147	9,704,449

NOTE.—a.c.s-r = Aluminum conductor, steel-reinforced; weights include steel core.

TRANSMISSION LINES

(Excluding High-Voltage and Dominion Power Lines)

WEIGHT OF CONDUCTORS

Miles of single circuit lines			Miles of double-circuit lines			Miles of three-circuit lines			Total mileage of one-, two-, and three-circuit lines at Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
0.56		0.56							0.56
3.46		3.46	17.11		17.11				20.57
1.63		1.63	40.21		40.21				41.84
			1.90		1.90				1.90
						4.70		4.70	4.70
2.88		2.88	7.48		7.48				10.36
184.58		184.58	42.76		42.76				227.34
247.73		247.73	198.18		198.18	5.45		5.45	451.36
32.80		32.80	13.15		13.15				45.95
145.44		145.44	34.96		34.96				180.40
93.41		93.41	3.65		3.65				97.06
34.60		34.60							34.60
0.45		0.45							0.45
50.94		50.94	1.22		1.22				52.16
77.78		77.78							77.78
138.48		138.48	9.89		9.89				148.37
89.19		89.19	11.33		11.33	1.72		1.72	102.24
28.47		28.47	7.67		7.67				36.14
309.23	16.60	325.83	0.56		0.56				326.39
430.56		430.56	23.20		23.20	0.81		0.81	454.57
21.68		21.68							21.68
10.05		10.05	11.86		11.86				21.91
7.86		7.86	0.23		0.23				8.09
0.88		0.88	0.77		0.77				1.65
0.07		0.07							0.07
33.34		33.34	22.24		22.24				55.58
50.92		50.92	11.26		11.26				62.18
21.00		21.00							21.00
17.05		17.05	3.03		3.03				20.08
12.46		12.46	0.47		0.47				12.93
21.20		21.20	13.18		13.18				34.38
13.15		13.15							13.15
6.19		6.19							6.19
14.70		14.70							14.70
28.25		28.25							28.25
0.10		0.10							0.10
100.55		100.55	3.56		3.56				104.11
22.85		22.85							22.85
2,254.49	16.60	2,271.09	479.87		479.87	12.68		12.68	2,763.64

TELEPHONE

ERECTED ON WOOD-POLE LINES

GAUGE, LENGTH AND WEIGHT OF ALUMINUM,

Size and material	Wire miles of conductors			Weight in pounds		
	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
No. 9 B. & S.G. copper.	594.98	1.83	596.81	124,351	384	124,735
No. 10 B. & S.G. copper.	253.66	....	253.66	42,107	....	42,107
No. 11 B. & S.G. copper.	4.44	....	4.44	702	....	702
No. 12 B. & S.G. copper.	85.92	....	85.92	8,936	....	8,936
No. 8 B. & S.G. c-c steel.	135.44	....	135.44	33,183	....	33,183
No. 9 B. & S.G. c-c steel.	1.20	....	1.20	233	....	233
No. 10 B. & S.G. c-c steel.	969.90	....	969.90	149,365	....	149,365
No. 17 B. & S.G. c-c steel.	....	....	....	....	....	....
No. 6 B.W.G. galv. iron.	15.32	....	15.32	8,778	....	8,778
No. 8 B.W.G. galv. iron	....	....	....	....	....	....
No. 9 B.W.G. galv. iron.	1,616.94	....	1,616.94	493,167	....	493,167
No. 10 B.W.G. galv. iron.	73.08	....	73.08	18,270	....	18,270
No. 12 B.W.G. galv. iron.	82.92	....	82.92	13,682	....	13,682
No. 6 a.c.s-r.	808.64	5.18	813.82	155,259	1,168	156,427
3 x .0661 alum. and 4 x .0661 steel	52.34	....	52.34	16,382	....	16,382
1/4" galv. steel	1.48	....	1.48	977	....	977
3 x 12 galv. steel	88.88	....	88.88	43,729	....	43,729
3 x 13 galv. steel	122.62	....	122.62	46,596	....	46,596
Totals	4,907.76	7.01	4,914.77	1,155,717	1,552	1,157,269

NOTE.—For telephone lines generally on wood poles and serving 220,000-volt and 110,000 volt power lines, see separate table.

c-c steel = Copper-clad steel. a.c.s-r = Aluminum cable, steel-reinforced.

LINES

CARRYING POWER CONDUCTORS

COPPER-CLAD STEEL AND GALVANIZED IRON WIRE

Miles of single-circuit lines			Miles of double-circuit lines			Total mileage of single and double-circuit lines at Oct. 31, 1933
Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Completed to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	
286.23	0.91	287.14	5.63	...	5.63	292.77
126.83	...	126.83	...	...	...	126.83
2.22	...	2.22	...	...	...	2.22
42.96	...	42.96	...	...	...	42.96
67.72	...	67.72	...	...	...	67.72
1.60	...	1.60	...	...	...	1.60
477.91	...	477.91	3.18	...	3.18	481.09
...	...	...	...	...	...	...
7.66	...	7.66	...	...	...	7.66
...	...	...	...	...	...	...
808.47	...	808.47	...	...	...	808.47
36.54	...	36.54	...	...	...	36.54
41.46	...	41.46	...	...	...	41.46
299.94	2.59	302.53	52.19	0.48	52.67	355.20
26.17	...	26.17	...	...	...	26.17
0.74	...	0.74	...	...	...	0.74
44.44	...	44.44	...	...	...	44.44
61.31	...	61.31	...	...	...	61.31
2,332.20	3.50	2,335.70	61.00	0.48	61.48	2,397.18

B. & S.G. = Browne & Sharpe Gauge.
B.W.G. = Birmingham wire gauge.

DOMINION POWER SYSTEM

MILEAGE OF LINES

Type of construction	Total at Oct. 31, 1933
44,000-volt, steel-supported transmission lines	34.11
44,000-volt, wood-supported transmission lines	140.44
22,000-volt, wood-supported transmission lines	27.52
22,000-volt, concrete-pole-supported transmission lines	10.07
10,000-volt, wood-supported transmission lines	11.23
Total	223.37

SIZE, MATERIAL, LENGTH AND

	Wire miles of conductors	Weight in pounds
	Total to Oct. 31, 1933	Total to Oct. 31, 1933
393,000 c.m. aluminum	91.00	174,720
157,500 c.m. copper (6 x No. 6 hemp core)	326.79	833,315
198,600 c.m. copper (6 x No. 5 hemp core)	10.98	32,191
133,079 c.m. copper (2/0 solid)	94.50	200,624
105,534 c.m. copper (1/0)	9.00	15,147
66,373 c.m. copper (No. 2)	174.24	184,485
52,634 c.m. copper (No. 3)	69.15	58,086
41,742 c.m. copper (No. 4)	15.81	10,530
26,250 c.m. copper (No. 6)	20.34	8,519
105,534 c.m. A.C.S.R. (No. 1/0)	2.70	2,068
66,373 c.m. A.C.S.R. (No. 2)	2.91	1,397
Totals	817.42	1,521,082

NORTHERN ONTARIO PROPERTIES—

WOOD-POLE TELEPHONE LINE FOR

SIZE, MATERIAL, LENGTH AND

Size and material	Wire miles of conductors		
	Total to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
6 x .0661 steel 1 x .0661 aluminum	60.00	....	60.00
6 x .0661 aluminum 1 x .0661 steel	321.52	....	321.52
Totals	381.52	....	381.52

WEIGHT OF POWER CONDUCTORS

Miles of single-circuit conductors	Miles of double-circuit conductors	Total mileage single- and double-circuit conductors at Oct. 31, 1933
Total to Oct. 31, 1933	Total to Oct. 31, 1933	
30.05	0.14	30.19
44.37	32.28	76.65
....	1.83	1.83
31.50	....	31.50
3.00	....	3.00
39.98	9.05	49.03
12.05	5.50	17.55
5.27	....	5.27
6.78	....	6.78
0.90	....	0.90
0.97	....	0.97
174.87	48.80	223.67

ABITIBI DISTRICT

HIGH-VOLTAGE TRANSMISSION LINES

WEIGHT OF CONDUCTORS

Weight in pounds			Miles of single-circuit lines		
Total to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933	Total to Oct. 31, 1932	Completed Oct. 31, 1932 to Oct. 31, 1933	Total to Oct. 31, 1933
23,640	....	23,640	30.00	....	30.00
61,732	....	61,732	160.76	....	160.76
85,372	....	85,372	190.76	....	190.76

APPENDIX III

DISTRIBUTION LINES AND SYSTEMS

Summaries of Data respecting Rural Distribution Systems, Distribution Feeders, Metering Stations, Distributing Stations and Distributing Systems constructed by the Hydro-Electric Power Commission.

Below is shown in tabular and descriptive form the work carried on under the supervision of the Distribution section of the Electrical Engineering department during the year ended October 31, 1933.

The work includes the construction of rural distribution systems, the installation of feeders to supply urban municipalities and the construction of metering equipments.

Work in connection with distribution systems was done by the Commission for certain municipalities, private companies, etc., at the request and at the expense of the parties concerned.

SUMMARY OF CONSTRUCTION IN RURAL POWER DISTRICTS

System	At October 31, 1932		At October 31, 1933	
	Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NIAGARA SYSTEM	6,489.84	44,019	6,640.93	45,293
GEORGIAN BAY SYSTEM—				
Severn district	277.59	2,489	279.40	2,519
Eugenia district	181.18	928	207.16	1,072
Wasdells district	222.32	1,468	227.35	1,534
Muskoka district	92.50	532	105.12	592
Bala district	34.05	206	35.55	222
EASTERN ONTARIO SYSTEM—				
Central Ontario district	914.65	6,436	960.59	6,768
St. Lawrence district	380.00	2,270	393.52	2,380
Rideau district	75.18	439	75.53	458
Madawaska district	10.09	67	10.09	65
Ottawa district	176.64	1,047	181.87	1,092
THUNDER BAY SYSTEM	36.45	123	78.30	262
NORTHERN ONTARIO PROPERTIES—				
Nipissing district	11.88	285	12.07	313
Manitoulin district	16.00	....	37.25	180
Total	8,918.37	60,309	9,244.73	62,750

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICT

Rural power district	Property number	At October 31, 1932		At October 31, 1933	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NIAGARA SYSTEM					
Acton	N5D1	8.00	26	8.00	26
Ailsa Craig	N4D7	6.00	19	6.00	19
Alvinston	N18D9	4.50	10	4.50	10
Amherstburg	N15D3	64.29	586	66.62	594
Aylmer	N11D2	110.10	614	110.95	623
Ayr	N12D4	23.01	85	23.76	87
Baden	N7D1	96.27	436	96.87	449
Beamsville	N1D4	155.08	1,452	156.60	1,489
Belle River	N15D2	43.83	368	43.83	368
Blenheim	N14D3	58.36	327	59.44	323
Bond Lake	N3D3	156.90	1,463	161.50	1,556
Bothwell	N14D10	37.58	136	37.58	136
Brampton	N13D2	51.62	182	51.62	172
Brant	N12D1	103.67	549	110.56	565
Brigden	N18D8	35.63	110	36.61	114
Burford	N12D2	48.87	264	49.70	268
Caledonia	N2D5	101.75	482	102.52	496
Chatham	N14D1	142.91	806	142.71	815
Chippawa	N1D7	25.73	174	25.73	178
Clinton	N8D11	66.33	377	70.33	395
Delaware	N4D3	125.82	656	130.54	643
Dorchester	N4D1	109.40	579	109.84	586
Dresden	N14D12	24.23	89	24.23	89
Drumbo	N12D5	54.58	268	56.38	269
Dundas	N2D1	107.01	735	110.27	762
Dunnville	N1D9	16.47	73	18.00	97
Dutton	N11D3	46.85	199	46.85	195
Elmira	N7D3	23.23	81	24.20	93
Elora	N5D4	44.88	270	46.17	272
Essex	N15D7	87.86	456	88.04	455
Exeter	N4D6	65.46	596	68.43	622
Forest	N18D6	41.02	146	41.35	151
Galt	N6D2	37.80	300	38.98	308
Georgetown	N5D2	55.33	276	57.50	284
Goderich	N8D2	40.40	184	49.33	214
Grantham	N1D2	60.78	769	63.66	798
Guelph	N5D3	87.46	534	92.10	555
Haldimand	N2D8	50.13	283	50.33	296
Harriston	N8D5	23.00	64	23.75	73
Harrow	N15D4	67.19	616	67.59	621
Ingersoll	N10D3	184.44	667	186.29	665
Jordan	N1D3	33.46	362	35.44	380
Keswick	N3D5	56.31	955	57.49	1,020
Kingsville	N15D5	131.54	1,349	132.55	1,362
Listowel	N8D8	76.39	346	80.15	392

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Continued

Rural power district	Property number	At October 31, 1932		At October 31, 1933	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NIAGARA SYSTEM—Concluded					
London	N4D2	190.49	2,012	192.58	2,078
Lucan	N4D5	33.68	122	33.68	124
Lynden	N2D2	54.23	253	56.57	263
Markham	N3D1	112.88	843	115.60	879
Merlin	N14D15	87.76	316	92.93	325
Milton	N13D3	64.28	340	65.20	346
Milverton	N8D9	40.17	178	41.27	187
Mitchell	N8D7	67.00	368	69.31	384
Newmarket	N3D4	60.95	345	64.41	380
Niagara	N1D1	48.28	308	48.03	309
Norwich	N10D1	106.70	474	108.77	484
Oil Springs	N18D3	20.81	116	20.81	114
Palmerston	N8D6	37.94	137	38.06	138
Petrolia	N18D5	14.78	57	14.98	59
Preston	N6D1	138.10	974	143.86	1,000
Ridgetown	N14D2	104.50	693	104.62	698
St. Marys	N9D1	114.80	447	115.01	454
St. Jacobs	N7D2	68.67	374	68.92	383
St. Thomas	N11D1	160.73	1,115	164.50	1,149
Saltfleet	N17D1	93.03	1,507	93.40	1,546
Sandwich	N15D1	127.29	2,055	128.43	2,074
Sarnia	N18D4	87.44	1,156	87.59	1,185
Scarboro	N3D2	80.06	669	82.91	736
Seaforth	N8D10	16.60	157	16.60	157
Simcoe	N12D6	67.30	377	73.92	387
Stamford	N1D6	12.37	292	12.37	288
Stratford	N8D4	37.00	222	37.17	226
Strathroy	N4D4	78.55	243	78.70	250
Streetsville	N13D1	102.75	452	104.19	466
Tavistock	N8D1	79.63	319	80.53	321
Thamesville	N14D11	68.06	275	68.06	274
Tilbury	N14D14	59.16	253	63.34	273
Tillsonburg	N10D4	110.04	571	111.03	574
Wallaceburg	N14D13	83.39	546	85.29	545
Walsingham	N12D7	78.58	433	88.43	481
Walton	N8D3	42.34	271	42.87	281
Waterdown	N2D3	67.40	869	69.53	921
Waterford	N12D3	69.75	304	70.65	335
Watford	N18D7	17.55	57	17.55	57
Welland	N1D5	273.60	2,585	281.39	2,627
Woodbridge	N16D1	194.31	981	195.96	1,008
Woodstock	N10D2	125.42	634	127.02	642

DETAILS OF CONSTRUCTION IN RURAL DISTRICTS—Continued

Rural power district	Property number	At October 31, 1932		At October 31, 1933	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
GEORGIAN BAY SYSTEM					
Severn District					
Alliston	S32D1	23.57	145	23.57	148
Barrie	S4D1	60.04	560	60.88	480
Beeton	S33D1	1.80	5	1.80	5
Bradford	S37D1	27.07	88	27.07	86
Buckskin	S24D1	0.95	15	1.20	17
Cookstown	S35D1	0.50	2	0.50	2
Creemore	S10D2	30.00	134	29.87	135
Elmvale	S7D1	25.50	158	25.50	158
Hawkestone	S9D1	26.80	152	26.80	160
Innisfil	S31D1	27.97	432	28.43	504
Medonte	S18D1	9.18	51	9.31	55
Midland	S1D1	12.13	43	12.13	43
Nottawasaga	S5D1	7.89	92	7.89	93
Thornton	S36D1	8.00	30	8.00	30
Wasaga Beach	S10D1	16.19	582	16.45	603
Eugenia District					
Arthur	E13D2	2.40	10	2.40	9
Bruce	E19D1	50.99	177	57.87	265
Chatsworth	E3D1	0.00	22	0.00	22
Flesherton	E1D1	2.60	39	2.60	39
Holstein	E7D1	0.50	8	0.50	9
Lucknow	E24D1	0.11	2	0.11	2
Markdale	E1D2	13.00	66	19.60	85
Meaford	E14D1	1.11	6	1.00	5
Neustadt	E8D1	0.50	4	0.50	4
Orangeville	E12D1	22.70	93	22.50	93
Owen Sound	E2D1	1.87	18	5.62	40
Ripley	E24D2	4.07	12	4.32	14
Shelburne	E10D1	12.51	47	18.44	53
Sauble	E46D1	9.37	41	10.00	46
Tara	E15D1	23.50	110	25.75	112
Wroxeter	E22D1	35.95	273	35.95	274
Wasdells District					
Beaverton [a]	W2D1	14.01	184	27.02	330
Cannington [b]	W3D1	4.05	24	9.15	52
Mariposa	W9D1	47.14	312	47.39	312
Port Perry	W12D1	48.66	344	49.09	358
Sparrow Lake	W1D1	30.15	235	32.55	254
Uxbridge	W11D1	62.15	226	62.15	228
Muskoka District					
Beaumaris	M7D1	22.46	207	24.66	231
Baysville	M10D1	31.25	129	31.25	134
Gravenhurst	M4D1	2.30	13	2.30	13
Huntsville	M2D1	18.70	77	27.20	99
Utterson	M8D1	17.79	106	19.71	115
Bala District					
Bala	GB13D1	34.05	206	35.55	222

[a] 11.56 miles and 131 consumers transferred from Georgina R.P.D. as of November 1, 1932.

[b] 5.60 miles and 25 consumers transferred from Cannington No. 2 R.P.D. as of November 1 1932.

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Continued

Rural power district	Property number	At October 31, 1932		At October 31, 1933	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
EASTERN ONTARIO SYSTEM					
CENTRAL ONTARIO DISTRICT					
Belleville	C38D1	81.81	657	84.28	680
Bowmanville	C23D1	28.98	127	28.93	131
Brighton	C6D1	10.15	63	10.15	62
Campbellford	C11D1	21.50	80	21.50	79
Cobourg	C13D1	90.29	453	94.01	458
Colborne	C7D1	31.07	151	31.37	160
Fenelon Falls	C30D1	18.45	125	19.32	127
Kingston	C44D1	110.90	650	122.00	730
Lakefield	C18D1	23.35	88	25.37	97
Lindsay	C29D1	13.65	71	20.23	120
Millbrook	C25D1	19.08	100	19.08	113
Napanee	C43D1	107.72	510	110.35	539
Newcastle	C22D1	26.35	121	27.08	121
Norwood	C31D1	7.70	59	7.70	61
Oshawa	C24D1	100.74	1,484	113.68	1,509
Omemee	C26D1	3.00	2	3.00	2
Peterborough	C20D1	60.65	998	62.90	1,072
Stirling	C35D1	27.43	109	27.81	110
Trenton	C3D1	41.55	202	41.55	201
Warkworth	C49D1	0.40	6	0.40	6
Wellington	C45D1	89.88	378	89.88	390
ST LAWRENCE DISTRICT					
Alexandria	L15D1	20.33	105	20.33	106
Brockville	L3D1	92.56	629	96.71	664
Chesterville	L5D1	46.87	331	47.52	349
Iroquois	L9D1	90.17	411	90.42	434
Martintown	L13D1	20.94	138	21.79	142
Maxville	L14D2	59.22	377	62.07	384
Prescott	L2D1	37.17	212	37.07	201
Williamsburg	L7D1	12.74	67	17.61	100
RIDEAU DISTRICT					
Carleton Place	H5D1	0.50	4	0.50	2
Perth	H2D1	14.82	56	15.07	59
Smiths Falls	H3D1	54.43	337	54.53	353
Kemptville	H9D1	5.43	42	5.43	44
MADAWASKA DISTRICT					
Arnprior	QM10D1	4.97	58	4.97	55
Renfrew	QM16D1	5.12	9	5.12	10
OTTAWA DISTRICT					
Nepean	T1D1	176.64	1,047	181.87	1,092
THUNDER BAY SYSTEM					
Fort William	P10D1	26.27	80	48.63	143
Port Arthur	P2D1	10.18	43	29.67	119

DETAILS OF CONSTRUCTION IN RURAL POWER DISTRICTS—Concluded

Rural power district	Property number	At October 31, 1932		At October 31, 1933	
		Miles of primary line constructed	Number of consumers receiving service	Miles of primary line constructed	Number of consumers receiving service
NORTHERN ONTARIO SYSTEM					
NIPISSING DISTRICT					
North Bay	Z4D1	8.56	278	8.82	302
Powassan	Z8D1	3.32	7	3.25	11
MANITOULIN DISTRICT					
Manitoulin	FM1D1	16.00	....	37.25	180

DISTRIBUTION FEEDER CONSTRUCTION

During the year ended October 31, 1933, the following work was carried on in connection with distribution feeders.

N 159 x 2—Lincoln Distributing Station to Port Dalhousie

When the Welland canal was unwatered the two submarine cables crossing above lock 4 were exposed and created a hazard. The older of these cables had been broken down by lightning and was found to be unsuitable for 4,000-volt service.

An overhead crossing was installed and the submarine cables were salvaged. The newer cable was used by Welland rural power district to cross the Welland ship canal at bridge No. 12.

Old sectionalizing switches were replaced by the "dropout" type. The work was completed October 20, 1933.

N 248 x 74—Dundas Rural Station to Binkleys Corners

This circuit which is carried on transmission line poles was rebuilt and brought up to present standards of construction when the transmission line was reinsulated for a higher voltage. A separate crossing was made at the Desjardins canal at Dundas rural station. The work was completed April 18, 1933.

N 439 x 20—Dorchester Distributing Station to Dorchester

This line was re-routed with larger conductors for the purpose of bettering the regulation at Dorchester and on the rural system beyond Dorchester, deteriorated poles and crossarms on the old part of the line were also replaced with new equipment. This work was completed June 2, 1933.

N 1138 x 10—Aylmer Distributing Station to Springfield

The conductors on this line from the Aylmer distributing station to the northern limits of Aylmer were replaced with conductors of a larger size. The pole line between these two points, which is the property of Aylmer was completely rebuilt. This work was completed February 19, 1933.

N 1138 x 41—Aylmer Distributing Station to Malahide Distributing Station

This line was re-routed for a portion of the distance through Aylmer with larger conductors and with the type of construction changed primarily to reduce the interruptions caused by tree interference. This work was completed February 19, 1933.

N 1206 x 15—Simcoe Municipal Station to Port Dover

A 26,400-volt transmission line has been supplying the Port Dover load for some time through the Port Dover distributing station.

The feeder line has been supplying the rural power district and will be maintained for that purpose and capital representing 6.29 miles will be transferred to Simcoe rural power district as of November 1, 1932.

N 1233 x 16—St. George Distributing Station to Brantford Sand and Gravel Company

The companies at the end of this line have not been operating for some time and during the year the metering equipments at the Brantford Sand and Gravel Company and the Mohawk Sand and Gravel Company were removed.

A rural extension taps off the end of the feeder line and several rural consumers and extensions are fed off the line at different points.

The line will be maintained to serve the rural consumers and a portion of the capital has been transferred to Brant rural power district. This has been done as of November 1, 1932.

N 1274 x 14—Plattsville Junction to Wolverton Mills

The company served by this feeder line has not been operating for some time but sufficient rural consumers have been connected to carry the line, which has been transferred to the Drumbo rural power district at the present day replacement cost. This transfer was made as of November 1, 1932.

N 1456 x 27—Merlin Distributing Station to Denison Tile Company

The company served by this feeder line has not been operating for over two years and the transformers and metering equipment have been removed. The line will be maintained to serve rural consumers north and west of Fletcher, and the line with a portion of the capital equivalent to a single-phase line has been transferred to Merlin rural power district as of November 1, 1932.

E 10 x 1003—Shelburne Distributing Station to Hornings Mills

Previous to the end of the fiscal year 1932, several rural extensions were added to this line and finally the hamlet of Hornings Mills was converted to rural. This line was therefore transferred to Shelburne rural power district as of November 1, 1932.

E 13 x 1302—Grand Valley Distributing Station to Arthur

The rehabilitation of the Grand Valley to Arthur 4,000-2,300-volt distribution feeder was carried out.

A thorough examination of each pole was made to determine residual strength. The earth was removed from each pole to a depth of approximately one foot, loose rot removed and the extent of internal rot determined by an increment borer.

It was found that approximately 20 per cent. of the poles needed replacing. In a few locations where trees were heavy the line was relocated to give more clearance. As there is a voltage regulator at Grand Valley no change was made in the conductor sizes. Several transpositions were installed and some of the conductors re-sagged.

This line was built in 1900 and the exceptional long life of the poles is probably due to the low lying clay ground through which the line passes.

The rehabilitation work was 95 per cent complete at October 31, 1933.

MUNICIPAL SYSTEMS

The following work was done in connection with Municipal Systems.

Aylmer Distribution System

A portion of the Aylmer distribution system was rebuilt in order to improve the service and provide for future increase in load. This work was completed April 18, 1933.

London Township Street Lighting

The street lighting system in London township was extended on the Proof Line road west to the river. This work was completed October 17, 1933.

Mildmay Distribution System

The distribution system in Mildmay was purchased from the Mildmay Electric Company and sold to the village of Mildmay in 1932.

During 1932 an estimate was prepared to cover the cost of putting the system into a good operating condition and changing the voltage from 2,200 volts to 4,000-2,300 volts. During 1933, at the request of the Mildmay Hydro-Electric System, the distribution system was rebuilt in accordance with this estimate. The poles were tested and replaced where necessary. The secondary wiring was completely replaced and transformers were relocated. The street lighting was changed from series to multiple, using the existing brackets except on the main street where ornamental brackets were installed on both sides of the street.

In order to change the voltage a new station (Walkerton rural station) was placed in service on the site of the Walkerton generating station to step the voltage from 2,200 volts to 4,000-2,300 volts and the line from this station to Mildmay changed to 4,000-2,300 volts.

This work was commenced on July 29, 1933 and completed on October 23, 1933.

Port Carling Distribution System

During the past year a short primary extension of approximately 0.6 of a mile of 2,200-volt primary line was constructed in order to extend electric service to four summer consumers.

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*The Statements "A", "B", "C", "D" and "E", appertaining to the local municipal electric utilities—and given in Section X of the Report—are detailed individually for Acton, but in the case of other municipalities are grouped under the sub-heading of "Municipal Accounts" with reference to Statements "A" and "B", and under the sub-heading "Statements" with reference to Statements "C", "D" and "E".

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  - Details of Construction in............470
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  - Credit or Charge Account............198
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  - Municipal Accounts........A, 318; B, 364
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  - Sinking Fund........................207
  - Municipal Accounts........A, 318; B, 364
  - Statements.........C, 403; D, 412; E, 438
- Watford—Load in Horsepower.......... 27
  - Cost of Power........................168
  - Credit or Charge Account............198
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  - Municipal Accounts........A, 318; B, 364
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- Watford Rural Power District—Load in Horsepower...................... 29
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  - Sinking Fund........................208
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  - Statements.........C, 403; D, 410; E, 438
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  - Cost of Power........................182
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  - Sinking Fund........................207
  - Municipal Accounts........A, 319; B, 365
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  - Sinking Fund........................256
  - Municipal Accounts........A, 337; B, 383
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  Cost of Power......................168
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  Credit or Charge Account............250
  Sinking Fund.......................256
  Municipal Accounts........A, 337; B, 383
  Statements.........C, 404; D, 422; E, 438
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  Municipal Accounts........A, 319; B, 365
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  Sinking Fund.......................256
  Municipal Accounts........A, 338; B, 384
  Statements.........C, 404; D, 412; E, 438
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  Credit or Charge Account............228
  Sinking Fund.......................232
  Municipal Accounts........A, 329; B, 375
  Statements.........C, 404; D, 422; E, 438
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  Cost of Power......................238
  Credit or Charge Account............252
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  Municipal Accounts........A, 338; B, 384
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  Cost of Power......................216
  Credit or Charge Account............228
  Sinking Fund.......................232
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  Municipal Accounts........A, 319; B, 365
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  Sinking Fund.......................232
  Municipal Accounts........A, 329; B, 375
  Statements.........C, 404; D, 422; E, 438
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  Miles of Line, Consumers and Rates... 86
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  Operating Report...................224
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  Sinking Fund.......................232
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  Cost of Power......................168
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  Sinking Fund.......................207
  Municipal Accounts........A, 320; B, 366
  Statements.........C, 404; D, 422; E, 438

PROVINCIAL AUDITOR'S REPORT

1932-33

Prepared pursuant to the provisions of an Order-in-Council dated
the 28th day of October, 1909

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

SESSIONAL PAPER No. 27

ONTARIO

TORONTO
Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty
1934

To The Honourable Herbert Alexander Bruce, M.D.,
R.A.M.C., F.R.C.S. (Eng.),
Lieutenant-Governor of the Province of Ontario.

May It Please Your Honour:

The undersigned has the honour to present to Your Honour the Report of the Provincial Auditor pursuant to the provisions of R.S.O. 1927, chap. 25, sec. 13, subsec. 2, of the Audit Act.

Respectfully submitted,

Geo. S. Henry,
Treasurer of Ontario.

Treasury Department, Ontario,
Toronto, February 15th, 1934.

PROVINCIAL AUDITOR'S OFFICE,
Toronto, February 15th, 1934.

HON. GEO. S. HENRY,
Treasurer of Ontario.

SIR: I have the honour to submit for the information of the Legislative Assembly, pursuant to the provisions of an Order-in-Council dated 28th October, 1909, as provided by R.S.O. 1927, chap. 25, subsection 2 of section 31, and pursuant to the provisions of subsection 2 of section 13, and sections 27 and 28 of the Audit Act:

(A) Introduction and Miscellaneous Statements.
(B) Legal Opinions.
(C) Statement of Special Warrants.
(D) Statement of Treasury Board Minutes.

Respectfully submitted,

G. A. BROWN,
Provincial Auditor.

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A

INTRODUCTION AND MISCELLANEOUS STATEMENTS

Report of the Provincial Auditor

INTRODUCTION

I have the honour to submit my report for the fiscal year ended October 31st, 1933, pursuant to the provisions of subsection 2 of section 13 and sections 27 and 28 of the Audit Act, R.S.O. 1927, chap. 25.

Ordinary Revenue	$51,373,051 98
Ordinary Expenditure	50,896,626 37
Excess of Ordinary Revenue over Ordinary Expenditure	$476,425 61

STATEMENT SHOWING SOURCES OF ORDINARY REVENUE

Fiscal Year Ending October 31st, 1933

DOMINION GOVERNMENT—ANNUAL SUBSIDY		$2,941,424 28
REVENUE DERIVED FROM INDIVIDUALS AND CORPORATIONS RECEIVING THE BENEFIT OF PROVINCIAL SERVICES, SPECIAL PRIVILEGES OR THE USE OF NATURAL RESOURCES AND PROPERTIES AND PROFITS FROM TRADING, ETC.:		
Taxation Gasoline, Mines, Lands, Corporations, Race Tracks (betting), Amusements, Stock Transfers and Wine.	$22,037,484 81	
Licenses Motor Vehicles, Liquor Permits, Hunting and Fishing, Insurance, Loan and Trust Companies, Mines, Race Tracks, Theatres, etc.	8,455,470 29	
Fees Local Registrars, Police Magistrates, Crown Attorneys, etc.; Fire Marshal, Mine Recording, Companies and Brokers Registration, etc.; Land Transfers, Motor Vehicle Transfers, etc.	1,818,964 00	
Fines and Penalties	91,743 18	
Profits from Trading Activities Liquor Control Board—Profits, Fines, Sale of Confiscated Liquor, etc.	5,515,000 00	
Succession Duties	8,081,322 11	
Natural Resources	1,765,774 11	
Interest on Drainage and Sundry Loans	211,014 13	
Miscellaneous Ontario Gazette, sale of Government publications, and casual revenue.	454,855 07	
		48,431,627 70
		$51,373,051 98

PROVINCIAL DEBT

Statement Showing Investment Thereof as at October 31st, 1933

FUNDED DEBT:			
Stock and Debentures Outstanding			$522,687,344 52
Certificates and Annuities			1,077,479 30
			$523,764,823 82
Deduct—Sinking Fund Investments—			
Registered Stocks		$ 2,893,385 70	
"AM"—Sinking Fund		1,492,000 00	
"AN"— " "		1,103,000 00	
"AV"— " "		8,030 00	
Hydro-Electric Power Commission—Ontario Bonds deposited with Treasury		2,101,000 00	
			7,597,415 70
Total Funded Debt			$516,167,408 12
UNFUNDED DEBT:			
Treasury Bills		$ 36,620,000 00	
Savings Office Deposits		21,546,006 32	
Special Funds, Accounts Payable and Accrued Interest		17,693,887 38	
			75,859,893 70
Gross Debt			$592,027,301 82
INVESTMENT THEREOF:			
Revenue Producing and Realizable Assets—			
Hydro-Electric Power Commission—Advances		$187,964,549 41	
Less—Sinking Fund Investments Deposited		2,101,000 00	
		$185,863,549 41	
Temiskaming and Northern Ontario Railway—Advances		30,207,934 92	
Farm, Housing and Settlers' Loans		59,525,156 64	
Cash and Accounts Receivable	$ 15,247,615 76		
King's Highways—Contruction—Cities and Counties	1,741,749 11		
		16,989,364 87	
			$292,586,005 84
Revenue Producing but not Realizable Assets—			
Roads and Highways	$188,111,502 21		
Less—Due by Cities and Counties	1,741,749 11		
		$186,369,753 10	
Niagara Parks		1,580,268 76	
Common School Fund—Trust Fund: Ontario and Quebec		1,458,971 36	
			189,408,993 22
Total Revenue Producing Assets			$481,994,999 06
Non-Revenue Producing Assets—			
Provincial Buildings and Public Works		$ 63,253,536 47	
Plant, Stores and Equipment		2,248,029 55	
Deferred Assets		379,703 61	
			65,881,269 63
Other Assets—			
Capitalized Value of Annual Subsidy		$ 58,828,485 60	
Unemployment Relief—Direct (less amount written off)		14,045,036 40	
			72,873,522 00
Total Assets			$620,749,790 69
Excess of Assets over Liabilities			$ 28,722,488 87

HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO

Advances by Province to October 31st, 1933

Advanced on Capital Account to October 31st, 1932		$204,488,631 44
Advances during current year		1,275,593 96
		$205,764,225 40
Deduct:		
Refund of Capital Advances not required	$ 339,473 57	
Sale of Properties	451,585 69	
		791,059 26
Total Advances to date		$204,973,166 14
Repayments from Sinking Fund in accordance with Debt Retirement Plan—		
To October 31st, 1932	$14,853,440 35	
For Current year	2,155,176 38	
		17,008,616 73
Net Advances to October 31st, 1933		$187,964,549 41

Note—Province of Ontario Bonds, $2,101,000, have been deposited with the Provincial Treasurer on account of Sinking Fund for the repayment of advances, in excess of cash payments called for and made under the Debt Retirement Plan.

AGRICULTURAL DEVELOPMENT FINANCE ACT

R.S.O. 1927, Cap. 67

Statement Showing Deposits in Province of Ontario Savings Offices, and Agricultural Loans as at October 31st, 1933

DEPOSITS IN SAVINGS OFFICES BY PUBLIC AT OCTOBER 31ST, 1933		$ 21,546,006 32
AGRICULTURAL DEVELOPMENT FINANCE ACT—INVESTMENTS—		
Agricultural Development Board—Debentures	$ 58,288,000 00	
Less: Repayments to date	7,888,000 00	
	$ 50,400,000 00	
Accrued Interest	865,363 50	
		$51,265,363 50
Farm Loans Act—Farm Loan Associations		192,121 37
" " " —Capital Stock in Associations		2,445 00
		$ 51,459,929 87
Savings Offices—		
Cash on hand and in banks	$ 446,654 85	
Accounts receivable	1,000 00	
Fixtures (depreciated value)	48,570 44	
		496,225 29
		$ 51,956,155 16

PUBLIC SERVICE SUPERANNUATION FUND

R.S.O. 1927, Cap. 16, Part III

As at October 31st, 1933

Balance at credit of Fund—November 1st, 1932				$4,345,659 00
Receipts and Payments for fiscal year 1933.				
CONTRIBUTIONS—				
Employees			$427,883 68	
Commissions, Boards, etc (Sec. 39)			97,577 34	
Government (Sec. 39)		$330,306 34		
(" 60)		34,204 74		
		$364,511 08		
Less Refunds (Sec. 36)		46,054 62		
			318,456 46	
			$ 843,917 48	
EARNINGS—				
Interest—1 year at 5% on balance to credit of Fund as at November 1st, 1932		$ 217,282 95		
On contributions.				
Employees	$ 9,451 97			
Government	9,451 97			
	$ 18,903 94			
Less—Interest deducted on account of payments to beneficiaries, etc.	12,727 28			
		6,176 66		
			223,459 61	
Total receipts for year ended October 31st, 1933			$1,067,377 09	
PAYMENTS—				
Lump sum payments, refunds, allowances, etc.			572,679 61	
				494,697 48
Balance at Credit of Fund, October 31st, 1933				$4,840,356 48

HIGHWAYS IMPROVEMENT FUND

R.S.O. 1927, Chap. 54, Sec. 9

CREDITS TO FUND, NOVEMBER 1ST, 1932:		
Balance carried from 1931-32	$18,840,786 24	
Consolidated Revenue, 20 Geo. V, Chapter 11	3,000,000 00	
Gasoline Tax	12,341,237 78	
Motor Vehicles	7,376,672 73	
County Repayments	2,837,497 82	
Suburban Areas	404,786 09	
Miscellaneous	306,110 72	
		$45,107,091 38
DEBITS AGAINST FUND TO OCTOBER 31ST, 1933:		
King's Highways	$5,200,000 00	
County Roads	2,105,893 72	
Township Roads	1,377,640 28	
Connecting Links	14,443 28	
Indian Reserve Roads	14,334 75	
		8,712,312 03
Balance to Credit		$36,394,779 35

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1932-33

Name	Page Pub. Acc.	Amount	Total
		$ c.	$ c.
PRIME MINISTER'S DEPT.:			
W. J. Campbell	B 9	425 06	
"	K 16	1,274 94	
"	C 7	50 00	1,750 00
C. J. Foster	B 9	3,000 00	
"	C 7	50 00	3,050 00
H. Petley	B 11	1,800 00	
"	C 7	200 00	2,000 00
LEGISLATION:			
R. Brown	C 6	677 00	
"	C 7	75 00	752 00
H. Cummings	C 7	4,600 00	
"	D 37	1,000 00	5,600 00
R. Dies	C 6	1,700 00	
"	C 6	200 00	1,900 00
W. G. W. Harvey	C 7	1 700 00	
"	C 6	400 00	2,100 00
G. Jones	C 6	984 27	
"	C 7	50 00	1,034 27
M. Rice	C 7	1,500 00	
"	C 7	50 00	1,550 00
ATTORNEY-GENERAL'S DEPT.:			
A. Becker	D 37	1,125 00	
"	N 17	100 00	1,225 00
W. J. Crawford	D 37	2,400 00	
"	N 17	300 00	2,700 00
Geo. F. Henderson	D 32	3,500 00	
"	I 8	3,500 00	7,000 00
J. J. Hoolihan	D 37	2,000 00	
"	N 17	300 00	2,300 00
I. A. Humphries	D 12	5,200 00	
"	D 37	1,000 00	6,200 00
G. D. Kennedy	D 37	1,599 96	
"	N 17	200 00	1,799 96
EDUCATION DEPT.:			
H. E. Amoss	F 28	4,400 00	
"	F 26	320 00	
"	F 32	75 00	4,795 00
R. W. Anglin	F 49	4,600 00	
"	F 31	350 00	
"	F 32	150 00	5,100 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1932-33—Continued

Name	Page Pub. Acc.	Amount	Total
		$ c.	$ c.
EDUCATION DEPT.—Continued			
Louis Beattie	F 53	4,000 00	
"	F 26	320 00	
"	F 31	245 00	
"	F 32	100 00	4,665 00
W. A. Beecroft	F 31	3,000 00	
"	F 31	24 00	
"	F 32	150 00	3,174 00
A. J. Beneteau	F 28	5,000 00	
"	F 31	276 00	
"	F 32	300 00	5,576 00
J. D. Campbell	F 28	4,200 00	
"	F 31	111 67	4,311 67
J. P. Cowles	F 31	4,600 00	
"	F 31	6 25	
"	F 32	500 00	5,106 25
N. Davies	F 53	3,800 00	
"	F 54	120 00	
"	F 26	345 60	4,265 60
L. H. DeLaporte	F 28	2,550 00	
"	F 26	200 00	2,750 00
W. J. Fleming	F 23	1,700 00	
"	F 24	170 00	1,870 00
V. K. Greer	F 28	5,400 00	
"	F 31	36 00	5,436 00
A. M. Hamill	F 53	3,600 00	
"	F 31	103 00	3,703 00
J. P. Hoag	F 28	4,600 00	
"	F 31	456 00	
"	F 32	300 00	5,356 00
A. G. Hooper	F 49	4,600 00	
"	F 31	44 67	
"	F 32	500 00	
"	F 52	42 50	5,187 17
A. J. Husband	F 49	4,600 00	
"	F 31	668 25	5,268 25
F. C. Jennings	F 51	3,800 00	
"	F 52	40 00	3,840 00
W. A. Jennings	F 49	4,600 00	
"	F 31	234 00	4,834 00
W. J. Karr	F 28	5,000 00	
"	F 31	468 00	
"	F 32	300 00	5,768 00
A. H. Leake	F 28	3,800 00	
"	F 31	330 00	4,130 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1932-33—Continued

Name	Page Pub. Acc.	Amount	Total
EDUCATION DEPT.—Continued		$ c.	$ c.
I. M. Levan	F 49	1,949 94	
"	F 31	6 25	
"	F 32	500 00	
"	F 32	85 00	2,541 19
J. B. MacDougall	F 28	4,200 00	
"	F 31	455 00	4,655 00
A. M. Moon	F 53	3,800 00	
"	F 26	240 00	4,040 00
R. A. Patterson	F 28	1,500 00	
"	F 26	60 00	1,560 00
S. D. Rendall	F 28	4,000 00	
"	F 26	240 00	4,240 00
G. F. Rogers	F 17	5,400 00	
"	F 31	659 00	
"	F 32	800 00	6,859 00
F. S. Rutherford	F 53	4,600 00	
"	F 31	650 00	
"	N 10	80 00	5,330 00
F. G. Sloman	F 23	1,800 00	
"	F 24	125 00	
"	F 31	19 50	1,944 50
D. Walker	F 33	5,000 00	
"	F 31	124 00	
"	F 32	800 00	5,924 00
Geo. Walton	F 17	2,000 00	
"	F 18	70 72	2,070 72
LANDS AND FORESTS DEPT.:			
L. V. Rorke	G 43	5,400 00	
"	G 44	1,000 00	6,400 00
MINES DEPT.:			
R. H. Murray	I 18	3,000 00	
"	S 37	815 00	3,815 00
PUBLIC WORKS DEPT.:			
J. Bennett	K 17	1,600 00	
"	C 7	75 00	1,675 00
T. Cordell	K 17	1,400 00	
"	C 7	75 00	1,475 00
S. Lowe	K 17	1,200 00	
"	C 7	50 00	1,250 00
S. McKenzie	K 17	1,400 00	
"	C 7	50 00	1,450 00

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1932-33—Continued

Name	Page Pub. Acc.	Amount	Total
PUBLIC WORKS DEPT.—Continued		$ c.	$ c.
E. Sexsmith	K 17	1,600 00	
"	C 7	50 00	1,650 00
W. P. Thompson	K 16	1,503 90	
"	C 7	50 00	1,553 90
HIGHWAYS DEPT.:			
R. M. Smith	L 6	6,000 00	
"	L 8	1,500 00	7,500 00
HEALTH DEPT.:			
B. Baycroft	M 22	1,042 90	
"	M 23	26 00	1,068 90
A. E. Berry	M 21	4,200 00	
"	F 26	48 00	4,248 00
L. Brydson	M 22	1,050 00	
"	M 23	199 75	1,249 75
J. R. Buchanan	M 22	1,200 00	
"	M 23	179 50	1,379 50
J. Cogle	M 22	1,300 00	
"	M 23	212 42	1,512 42
M. Copp	M 22	1,200 00	
"	M 23	32 00	1,232 00
V. Crossley	M 22	1,800 00	
"	M 23	38 00	1,838 00
W. Fenton	M 22	1,600 00	
"	M 23	221 04	1,821 04
M. Harrison	M 22	750 00	
"	M 23	34 00	784 00
E. Jewell	M 22	1,500 00	
"	M 23	210 18	1,710 18
A. D. McClure	M 22	2,100 00	
"	M 23	46 00	2,146 00
W. B. McClure	M 22	2,700 00	
"	M 23	58 00	2,758 00
J. W. S. McCullough	M 15	5,700 00	
"	M 70	1,800 00	7,500 00
A. L. McNabb	M 22	4,200 00	
"	M 23	51 50	4,251 50
M. Mercer	M 22	825 00	
"	M 23	17 50	842 50
W. Murphy	M 22	750 00	
"	M 23	178 50	928 50

Statement showing the remuneration paid to Officials in the Parliament Buildings who received pay from more than one source during the Fiscal Year 1932-33—Continued

Name	Page Pub.Acc.	Amount	Total
		$ c.	$ c.
HEALTH DEPT.—Continued			
R. Packham	M 22	1,600 00	
"	M 23	156 50	
			1,756 50
J. T. Phair	M 17	4,400 00	
"	F 26	320 00	
			4,720 00
C. R. Smith	M 22	1,800 00	
"	M 23	201 00	
			2,001 00
L. V. Vrooman	M 17	1,500 00	
"	F 26	120 00	
			1,620 00
M. D. Ward	M 22	1,600 00	
"	M 23	44 00	
			1,644 00
W. M. Wilson	M 22	3,600 00	
"	M 23	51 50	
			3,651 50
PUBLIC WELFARE:			
Wm. Rhoades	O 8	3,000 00	
"	A 2	100 00	
			3,100 00
TREASURY DEPT.:			
P. W. Bull	P 14	1,800 00	
"	K 30	84 00	
			1,884 00
Alexander Fraser	P 16	2,000 00	
"	A 2	233 24	
			2,233 24
A. H. Gray	P 14	1,900 00	
"	K 30	120 00	
			2,020 00
A. E. Hider	P 15	1,600 00	
"	K 30	107 80	
			1,707 80
R. Regan	P 10	3,000 00	
"	C 6	40 00	
			3,040 00
F. M. Turnbull	P 10	4,950 00	
"	P 11	2,000 00	
			6,950 00
PROVINCIAL SECRETARY:			
A. E. Venables	R 8	1,600 00	
"	M 19	486 57	
			2,086 57

B

LEGAL OPINIONS

Re Vital Statistics Act

Provincial Auditor's Office,
Toronto, June 20th, 1933.

Mr. Edward Bayly, K.C.,
Deputy Attorney-General.

Dear Mr. Bayly:

Subsection 2 of Section 2 of The Vital Statistics Act, 21 Geo. V, Chapter 21, reads as follows:

> "Every such officer shall, for the particulars as to each divorce, receive a fee of $2.00, and such fee shall be payable from time to time by the Treasurer of Ontario on the certificate of the Registrar-General."

May I ask if in your opinion, when there is no legislative appropriation to provide for the payments above referred to, is it the intention of the Act that the payments would be a proper charge against Consolidated Revenue Fund?

Your ruling would be very much appreciated.

Yours very truly,

G. A. Brown,
Provincial Auditor.

Department of Attorney-General
Toronto 5, June 23rd, 1933.

My Dear Mr. Brown:

Replying to your letter of June 20th regarding Subsection 2 of Section 2 of The Vital Statistics Act, which authorizes the Treasurer of Ontario, on the certificate of the Registrar-General, to pay a $2.00 fee to officers for the furnishing of particulars as to a divorce, I am of opinion that this authorizes payments to be charged against Consolidated Revenue Fund. My reason for coming to this conclusion is this—as you know, all payments of money must be authorized by the Legislature. This is usually done by apt appropriations, but may be done by a general direction to pay, in which case it is customary in most Acts to say that such payments may be charged against Consolidated Revenue Fund. However, if this last part authorizing such payments to be charged against Consolidated Revenue Fund, is omitted, I am of opinion that the authorization to pay being there, the only fund you can charge it to, would be the Consolidated Revenue Fund, and while the phrasing of The Vital Statistics Act which you quote, might be improved upon, I think it is adequate to authorize the payments, in which case, such payments should be charged against the Consolidated Revenue Fund.

Yours faithfully,

E. Bayly,
Deputy Attorney-General.

G. A. Brown, Esq.,
Provincial Auditor,
Buildings.

PROVINCIAL AUDITOR'S OFFICE,
Toronto, June 27th, 1933.

MR. F. V. JOHNS,
Assistant Provincial Secretary.

DEAR MR. JOHNS:

I am attaching hereto copy of a letter I received from the Deputy Attorney-General giving his ruling in reference to the payment of fees to the various officers mentioned in Subsection 2 of Section 2 of The Vital Statistics Act, 21 Geo. V, Chapter 21.

Yours very truly,

G. A. BROWN,
Provincial Auditor.

Re Contributions to Public Service Superannuation Fund

Toronto, November 4th, 1932.

S. McCLENAGHAN, ESQ.,
Chief Commissioner, Liquor Control Board.

DEAR SIR:

I am in receipt of your letter of 28th October, addressed to Honourable E. A. Dunlop, Provincial Treasurer, and note your comments on the proposed policy as outlined in my letter of October 27th, in respect to the payment by the Board into Consolidated Revenue Fund, to be credited to the Public Service Superannuation Fund, of an amount equivalent to the employees contributions during the fiscal year ended October 31st, 1932, in lieu of the Government making the payment as formerly.

Paragraph 3 of your letter reads as follows:

> "This would indicate apparently that such payments should be made from the Consolidated Revenue Fund and in our opinion, should be considered the governing factor."

Even granting that your opinion is correct and also that the proposed policy is perfectly in order, then I think the Government has a perfect right to request the Board to pay into Consolidated Revenue Fund an amount equivalent to the employees contributions for the year.

As to whether there would be any particular advantage in making the change is not for me to comment upon as it is purely a matter of Government policy.

The following is a statement showing the contributions to the Fund by employees of the Liquor Control Board for the year 1931-32.

Pay List Deductions	$93,032 69	
Arrears Paid	725 39	
	$93,758 08	
Less—Refunds	975 03	
Amount Payable by Board		$92,783 05

The Board's cheque for Ninety-two Thousand, Seven Hundred and Eighty-three Dollars and Five Cents ($92,783.05) would be very much appreciated at your earliest opportunity in order that we may close our books.

Yours very truly,

G. A. Brown,
Provincial Auditor.

MEMORANDUM FOR THE ATTORNEY-GENERAL:

Referring to the attached letters, in my opinion the Liquor Control Board is as much a part of this Department as any other and, subject to The Liquor Control Act and Regulations, is entirely under the direction of the Minister.

In my opinion, you can ask the Liquor Control Board to pay to the Consolidated Revenue Fund an amount equal to the total contributions of the employees of the Board for superannuation. The Government is under an obligation to credit the Superannuation Fund with an amount equal to the total contributions of the Civil Service generally.

Whether or not the suggestion is advantageous, I do not, of course, know and I am not asked to give an opinion upon it.

Mr. McClenaghan's letter of October 26th to the Honourable the Provincial Treasurer really begs the question. The Government is under an obligation to contribute to the Superannuation Fund, but there is nothing to prevent the Government instructing the Liquor Control Board to contribute to the Consolidated Revenue Fund (not to the Superannuation Fund) an amount equal to the total contributions of their employees towards superannuation.

The first part of Mr. Brown's letter to the Chief Commissioner, dated November 4th, suggests payment by the Board into the Consolidated Revenue Fund, to the credit of the Public Service Superannuation Fund. I think the words, "credited to the Public Service Superannuation Fund," are quite inadvisable, because it looks as if it were a direct intimation to the Board to assume a governmental burden. Advising the Liquor Control Board, as I have said, to pay an amount equal to the total contributions of the Civil Servants under the Liquor Control Board into the Consolidated Revenue Fund, is, in my opinion, quite regular and quite legal.

Yours faithfully,

E. Bayly,
Deputy Attorney-General.

November 5th, 1932.

DEPARTMENT OF ATTORNEY-GENERAL
Toronto 5, November 10th, 1932.

MY DEAR SIR:

Replying to your request for an opinion made to the Attorney-General on the basis of a letter from you to the Chairman of the Liquor Control Board, dated October 25th, the Chief Commissioner's reply, dated October 28th and your reply to him, dated November 4th, regarding the payment by the Liquor Control Board into Consolidated Revenue Fund, for the purpose of paying an amount equivalent to the employees' contributions, to the Public Service Superannuation Fund—I have given an opinion to the Attorney-General. This opinion in effect is that the Liquor Control Board, being as much under the control of the Minister (subject to the provisions of The Liquor Control Act) as any other governmental service, can be requested to send in returns, in my opinion, and apply their money as the Government, or the Minister in charge, directs.

As the Government is under an obligation to credit the Superannuation Fund with an amount equal to the total contributions of the Civil Service generally, I do not think that the Liquor Board should be asked directly to contribute this amount, but they can pay an equivalent amount to the Consolidated Revenue Fund, which will be available for the Government to apply to its credit.

I am enclosing a copy of my opinion to the Attorney-General and have sent a copy of this letter to the Honourable Mr. Dunlop for his information.

I may add that as I advised you verbally, corporations are not in the same legal position as Civil Service Departments and Branches, and if you desire them to contribute, I think their contributions should be made on action by their Boards.

Yours faithfully,

E. BAYLY,
Deputy Attorney-General.

G. A. BROWN, ESQ.,
Provincial Auditor,
Buildings.

C

SPECIAL WARRANTS

C

SPECIAL WARRANTS

STATEMENT OF SPECIAL WARRANTS ISSUED DURING THE FISCAL YEAR ENDED OCTOBER 31st, 1933

Date of Warrant	SERVICE		Warrants	Expended 1932–33	Unexpended
	Prime Minister's Department				
	Royal Commission of Investigation into the purchase of certain properties by the Hydro-Electric Power Commission of Ontario— Balance unexpended, 1931-32		$20,292 40	$10,450 77	$9,841 63
	Chairman, Convention Committee, Border Cities of the Canadian Legion of the British Empire Service League, Ontario Provincial Command, grant—				
August 29th, 1933	Warrant		200 00	200 00	
	Canadian Legion of the British Empire Service League, Ontario Provincial Command, grant—				
May 9th, 1933	Warrant	$1,500 00			
August 23rd, 1933	"	1,500 00	3,000 00	3,000 00	
	Veterans Reunion Council, re Warriors' Day, Canadian National Exhibition, grant—				
August 23rd, 1933	Warrant		500 00	500 00	
	Expenses in connection with the preparation of the St. Lawrence Agreement between the Dominion of Canada and the Province of Ontario— Warrant unexpended, 1931-32		5,114 77	5,114 77	
	To pay for losses on the operation of Northern Ontario properties of the Hydro-Electric Power Commission—				
October 31st, 1933	Warrant		120,239 55	120,239 55	
	Insurance Department				
	Superintendent of Insurance, to pay unforeseen expenses, re the Sixteenth Annual Conference of the Association of Superintendents—				

September 26th, 1933	Warrant		115 34	115 34	
	Education Department				
	Board of Trustees, Royal Ontario Museum, cost of new building, etc.—				
	Balance unexpended, 1931-32		446,797 61	263,000 00	183,797 61
	Corporation of the Town of Cobalt, to meet the payment of High School Debentures and Interest—				
	Balance unexpended, 1931-32		93 66	93 66	
	Ontario Temperance Association, to aid in the development of temperance education, grant—				
December 6th, 1932	Warrant		500 00	500 00	
	Purchase and distribution of books, "Early Life in Upper Canada," to be presented to the Public and Separate Rural School Libraries—				
February 7th, 1933	Warrant		8,750 00	8,750 00	
	Institut Canadien Francais, Ottawa, grant—				
June 6th, 1933	Warrant		200 00	200 00	
	Canadian National Institute for the Blind, special grant—				
July 11th, 1933	Warrant		10,000 00	10,000 00	
	Ontario School Trustees' and Ratepayers' Association, special grant—				
September 6th, 1933	Warrant	1,000 00			
October 31st, 1933	"	1,500 00	2,500 00	1,000 00	1,500 00
	Northern Development Department				
	Costs and expenses re trip to Northern Ontario by certain members of the Executive of the Ontario Good Roads Association and others, from October 18th to October 20th, 1932—				
November 1st, 1932	Warrant		300 00	279 51	20 49
	Costs and expenses re the Northern Development exhibit at the Canadian National Exhibition—				
September 14th, 1933	Warrant		500 00	490 30	9 70
	Expenses re construction of Settlers' roads in the Districts of North and South Cochrane and Temiskaming—				
September 26th, 1933	Warrant		25,000 00	712 00	24,288 00

SPECIAL WARRANTS—Continued

Date of Warrant	SERVICE		Warrants	Expended 1932-33	Unexpended
	Northern Development Department—Continued				
	Expenses re construction and completion of the road between Larder Lake and Kirkland Lake—				
June 13th, 1933	Warrant		$100,000 00	$99,394 05	$605 95
	Expenses re construction of a bridge on the Ferguson Highway at Round Lake, Con. 5, Marquis-Pacaud boundary—				
July 21st, 1933	Warrant		35,000 00	4,356 07	30,643 93
	Public Works Department				
	Payment of accounts for alterations and class room equipment, Toronto Normal School—				
July 21st, 1933	Warrant		6,500 00	4,976 13	1,523 87
	Payment of accounts re wrecking of old gaol, Sudbury, Sudbury District—				
September 6th, 1933	Warrant		1,500 00	1,247 08	252 92
	Payment of accounts for exhibiting and expenses in connection with Departments at Central Canada Exhibition, Ottawa—				
August 3rd, 1933	Warrant		2,825 00	1,404 63	1,420 37
	Highways Department				
	Building, furnishing and operating Tourists' Bureaus at border points, also the cost of literature and road maps for the purpose of advertising Ontario—				
June 20th, 1933	Warrant		15,000 00	10,452 47	4,547 53
	Health Department				
	Travelling and other expenses of the Commission appointed to investigate and report on the Treatment of Cancer—				

	Balance unexpended, 1931-32		3,264 05	2,852 16	411 89
	Ontario Hospital, Mimico, reconstruction, alterations and additions to cottages—				
	Balance unexpended, 1931-32	$7,092 27			
November 25th, 1932	Warrant	25,000 00			
January 24th, 1933	"	25,000 00			
May 25th, 1933	"	33,000 00	90,092 27	89,802 03	290 24
	Travelling expenses, etc., for the removal and escort of indigent patients of unorganized territory to and from Public Hospitals and Hospitals for Incurables, etc., and for burial expenses where death occurs in such hospitals, etc.—				
April 27th, 1933	Warrant	500 00			
July 27th, 1933	"	500 00	1,000 00	487 02	512 98
	Canadian Tuberculosis Association, Ottawa, grant—				
June 13th, 1933	Warrant		500 00	500 00	

Labour Department

	Labour Educational Association of Ontario, special grant—				
May 12th, 1933	Warrant		100 00	100 00	
	National Labour Day Committee, Toronto, special grant—				
July 21st, 1933	Warrant		100 00	100 00	
	International Labour Day Committee, Toronto District Labour Council, special grant—				
August 1st, 1933	Warrant		100 00	100 00	
	Essex County Trades and Labour Council, to assist in the convention of the Trades and Labour Congress of Canada, at Windsor, September, 1933—				
July 21st, 1933	Warrant		500 00	500 00	

Public Welfare

	To provide for indigents and burial of indigents resident in unorganized territory and other expenditure incidental to Public Welfare not provided for in estimates—				
April 20th, 1933	Warrant	750 00			
June 27th, 1933	"	750 00	1,500 00	1,273 00	227 00

SPECIAL WARRANTS—Continued

Date of Warrant	SERVICE		Warrants	Expended 1932–33	Unexpended
	Public Welfare—Continued				
August 1st, 1933	District of Temiskaming Children's Aid Society, maintenance of wards from Town of Latchford and Township of Bucke— Warrant		$150 00	$150 00	
	Agriculture Department				
November 23rd, 1932	Thedford Cold Storage Co., Ltd., a co-operative cold storage association, loan— Warrant		30,000 00	30,000 00	
	Mapleton Cheese and Butter Co., Ltd., a co-operative association, loan— Unexpended, 1931-32		2,500 00	2,500 00	
January 5th, 1933	The Georgian Bay Fruit Growers, Ltd., a co-operative cold storage association, loan— Warrant		5,000 00	5,000 00	
January 24th, 1933	Messrs. Clarkson, Gordon, Dilworth, Guilfoyle and Nash, chartered accountants, re survey of the Agricultural Development Board, operations, etc.— Warrant		2,500 00	2,500 00	
August 30th, 1932	Niagara Packers, Ltd., a co-operative association, loan— Warrant		2,500 00	2,500 00	
May 2nd, 1933	Blackwater Co-operative Turnip Growers, Ltd., loan— Warrant		2,500 00	2,500 00	
May 2nd, 1933 September 12th, 1933	Nottawasaga Co-operative Cold Storage, Ltd., loan— Warrant "	$5,800 00 1,200 00	7,000 00	7,000 00	
August 23rd, 1933	Colonel the Honourable Thomas L. Kennedy, expenses while investigating marketing conditions in Great Britain and Ireland— Warrant		800 00	800 00	

	Southern Ontario Flu-Cured Tobacco Growers Co-operative Association, Ltd., grant—				
September 6th, 1933	Warrant		2,000 00	2,000 00	
	British Welcome League, grant—				
May 2nd, 1933	Warrant		625 00	625 00	
	First Co-operative Packers of Ontario, Ltd., Barrie, loan—				
June 13th, 1933	Warrant	5,000 00			
July 13th, 1933	"	3,500 00			
July 25th, 1933	"	4,000 00	12,500 00	12,500 00	
	Peterboro Industrial Exhibition, grant—				
September 12th, 1933	Warrant		200 00	200 00	
	Ottawa Valley Packing Company, Ltd., loan—				
October 24th, 1933	Warrant		25,000 00	25,000 00	
	Expenses in connection with an exhibit at the World's Grain Exhibition and Conference at Regina, July 24th to August 5th, 1933—				
November 14th, 1933	Warrant		3,000 00	2,999 43	.57
	Nelson Fruit and Vegetable Growers' Co-operative Company, Ltd., loan—				
August 1st, 1933	Warrant		15,000 00	15,000 00	
	Total Special Warrants		$1,013,359 65	$753,464 97	$259,894 68

D

TREASURY BOARD MINUTES

D

TREASURY BOARD MINUTES

STATEMENT OF TREASURY BOARD MINUTES ISSUED FOR EXPENDITURES IN EXCESS OF APPROPRIATIONS DURING THE FISCAL YEAR ENDED OCTOBER 31st, 1933

	Warrant	Expended
Prime Minister's Department		
Executive Council—		
Contingencies	$3,000 00	$1,206 40
Sundry investigations	6,500 00	5,831 58
Hydro-Electric Power Commission—		
Thunder Bay System, transmission lines, rural distribution	11,000 00	11,000 00
Northern System, transmission lines, 110,000 K.V.—A line	50,690 96	39,835 96
Legislation		
Legislative Library, purchase of books, contingencies, etc	1,000 00	964 90
Attorney-General's Department		
Main Office, contingencies	65 00	47 19
General—		
Commissions and sundry investigations	714 80	714 80
Grant to Conference on Improving Laws in the Province	400 00	400 00
Administration of Justice—		
General Administration of Justice in Counties	......	7,061 51
" " " Districts	25,000 00	12,499 87
Algoma District, engineers, gaolers, caretakers, etc	2,000 00	1,431 18
Kenora " gaolers, lock-up keepers, etc	3,000 00	2,930 00
Nipissing " " " "	200 00	197 25
Rainy River " " " "	1,000 00	563 00
Sudbury " " " "	2,000 00	1,396 00
Temiskaming District, gaolers, lock-up keepers, etc	4,500 00	2,925 50
Thunder Bay " " " "	5,500 00	5,030 00
Local Masters of Titles—		
Haileybury, salaries and expenses	270 47	203 92
Cochrane " "	269 87	218 37
Miscellaneous—		
Fire Marshall's Office, Division of Fire Investigation	5,000 00	2,132 34
Education Department		
Main Office—		
Proportion of cost of Minister's Report	350 00	326 12
Consolidation and Revision of Acts	100 00	46 96
Public and Separate School Education—		
Grants and contingencies	50,000 00	40,629 68
Grant to Frontier College	2,500 00	2,500 00
Training Schools—		
Caretakers in Model Schools used for Training Teachers	20 00	20 00
Normal and Model Schools—		
Toronto Normal and Model Schools—		
Physical Culture apparatus, etc	150 00	52 54
Fuel, light and power	250 00	176 33
Wages of porters, extra firemen, etc	200 00	181 12
Scrubbing, cleaning, etc	600 00	474 17
Ottawa Normal School—		
Fuel, light and power	500 00	497 72
Water	75 00	55 22
Snow cleaning, cartage, etc	50 00	17 14
London Normal School, fuel, light and power	200 00	188 81
Hamilton Normal School—		
Apparatus, chemicals, Domestic Science and Manual Training supplies	200 00	108 77
Physical Culture apparatus, etc	100 00	85 00
Fuel, light and power	150 00	99 53
Water	100 00	6 58

TREASURY BOARD MINUTES—Continued

Education Department—Continued

	Warrant	Expended
Normal and Model Schools—Continued		
Stratford Normal School—		
Reference books, contingencies, etc.	$250 00	$213 99
University of Ottawa, Normal School, reference books, contingencies, etc.	2,000 00	946 45
Sturgeon Falls Model School, scrubbing, cleaning, etc.	50 00	21 75
Embrun Model School, furniture repairs and incidentals	50 00	6 47
Scrubbing, cleaning, etc.	8 95	8 95
High Schools and Collegiate Institutes—		
Travelling and moving expenses	600 00	284 03
Stationery, postage, printing and contingencies	800 00	764 15
Ontario Training College for Technical Teachers, water	50 00	22 26
Belleville School for the Deaf—		
Farm hands, including extra farm hands	....	55 00
Cooks, laundresses and housemaids	....	815 35
Brantford School for the Blind, temporary assistance	....	56 30
Monteith Northern Academy, expenses	5,000 00	4,414 58

Lands and Forests Department

	Warrant	Expended
Back to the Land Movement	30,000 00	27,190 33
Reforestation	15,000 00	5,659 03
Fire Ranging	500,000 00	428,871 85
Surveys Branch, surveys	10,000 00	10,000 00

Northern Development Department

	Warrant	Expended
Colonization Roads—		
Contingencies	319 00	318 84
Inspection of Roads and Bridges	10,000 00	9,737 18

Game and Fisheries Department

	Warrant	Expended
Sundry Enquiries and Investigations	815 00	747 82

Public Works Department

	Warrant	Expended
Maintenance and Repairs of Government Buildings—		
Government House, repairs, contingencies, etc.	500 00	395 46
Parliament and Departmental Buildings—		
Water and fuel	8,000 00	7,972 05
Furniture and furnishings for buildings	1,000 00	107 24
Painting, inside and outside work	2,000 00	1,625 23
Telephone service	945 10	945 10
Sewage Experimental Station	25 00	20 85
Osgoode Hall, cleaning af building	300 00	280 08
Kemptville Agricultural School, repairs and incidentals	500 00	137 62
General Buildings, to provide for repairs and installation of boilers and heating plants	3,000 00	578 95
Ontario Government Building, Exhibition Park, repairs and installing exhibits, etc.	1,500 00	1,381 00
Public Works and Bridges—		
Surveys and inspections	1,500 00	1,491 93
Municipal bridges	10,000 00	8,779 36
Public Buildings—		
Ontario Hospitals, additions, alterations and equipment	5,000 00	276 89
Girls' Training School, Galt, construction of works and buildings	60,000 00	1,308 81

TREASURY BOARD MINUTES—Continued

Highways Department

	Warrant	Expended
Motor Vehicles Branch, salaries	$7,180 96	$7,180 96
Automobile markers and supplies	21,615 70	20,953 68

Health Department

	Warrant	Expended
Main Office—		
Operation of Radium Emanation plant	3,440 59	3,103 90
Preventable Diseases—		
Outbreaks of diseases	6,800 00	6,787 81
Treatment of patients	20,650 00	20,116 62
General Hospitals and Charities—		
General Hospitals	68,917 87	68,898 67
General—		
Grants to recovered indigent patients and removal expenses	900 00	368 09
Travelling expenses of Social Service workers	500 00	490 26
Removal expenses other than patients	1,700 00	1,312 99
Printing and stationery for Public Institutions	10,000 00	4,996 28
Medical attendance, etc., of employees of Public Institutions	1,000 00	96 89
Maintenance of criminal insane at Guelph Reformatory	766 54	766 54
Brockville Hospital—		
Matrons and assistants, including domestic help	2,400 00	2,400 00
Engineers and assistants	2,000 00	1,198 82
Cobourg Hospital—		
Matrons and assistants, including general help	1,000 00	800 00
Artisans not domestics	1,000 00	1,000 00
Hamilton Hospital, Superintendent, Physicians and Dentists	2,500 00	2,232 16
Kingston Hospital—		
Superintendent, Physicians and Dentists	3,800 00	3,702 50
Matron and assistants, including domestic help	1,500 00	1,108 32
London Hospital—		
Superintendent, Physicians and Dentists	2,800 00	2,675 42
Steward and assistants	1,500 00	1,385 64
Artisans not domestics	1,000 00	975 00
Orillia Hospital—		
Steward and assistants	3,000 00	2,661 20
Engineers and assistants	600 00	600 00
Attendants and nurses	1,000 00	671 48
Teachers and Industrial Instructors	500 00	300 00
Toronto Hospital, attendants and nurses	5,100 00	4,427 41
Whitby Hospital, Engineers and assistants	1,400 00	1,071 28
Repairs to buildings	6,000 00	4,468 46
Woodstock Hospital—Matron and assistants, including domestic help	....	55 35

Public Welfare Department

	Warrant	Expended
Main Office—		
Contingencies	775 00	774 22
Maintenance of indigents in unorganized territory	500 00	494 67
Standard Relief Farms for Municipalities	600 00	480 22
Children's Aid Branch, contingencies	1,400 00	1,399 84
Mothers' Allowances Commission—		
Contingencies	10,000 00	6,222 34
Allowances	200,000 00	165,849 89
Old Age Pensions Commission—		
Contingencies	10,000 00	9,370 15
Allowances	....	223,332 90

Provincial Secretary's Department

	Warrant	Expended
Registrar-General, District Registrar's fees	42 50	42 50
Public Institutions Branch, contingencies	650 00	93 30

TREASURY BOARD MINUTES—Continued

Provincial Secretary's Department—Continued

	Warrant	Expended
General—		
Removal expenses, other than patients	$300 00	$180 16
Treatment of patients in Hospitals and Sanatoria	800 00	727 50
Legal costs and expenses	500 00	254 38
Mimico Reformatory—		
Salaries	1,000 00	557 83
Expenses	750 00	557 37
Mercer Reformatory, repairs to buildings, etc	2,000 00	1,211 06
Fort William Industrial Farm	2,000 00	1,838 28

Agriculture Department

	Warrant	Expended
General—		
Removal expenses of officials	193 14	193 14
Incidentals	350 00	330 44
Publicity work in Great Britain	10,000 00	7,241 84
Dairy Branch—		
Grant to Dairymen's Association, Eastern Ontario	500 00	500 00
Fruit Branch—		
Horticultural Experimental Station, salaries	100 00	100 00
Apple Maggot Survey, expenses	1,200 00	1,022 07
Agricultural Representatives Branch, Royal Winter Fair party	15 72	15 72
Markets and Co-operation Branch, salaries	1,318 27	1,318 27
Kemptville Agricultural School, salaries and expenses	1,000 00	995 65
Western Ontario Experimental Farm, Ridgetown, maintenance, salaries, etc	2,200 00	2,198 58
Ontario Agricultural College—		
Animal Husbandry Division—		
Salaries	46 87	46 87
Herdsmen, teamsters, etc	573 66	573 66
Experimental Dairy and Dairy School, salaries	87 49	87 49
Poultry Department, salaries	153 12	153 12
Horticultural Department—		
Salaries	87 49	87 49
Gardeners, teamsters, etc	336 42	336 42

Miscellaneous

	Warrant	Expended
Gratuities	200 00	200 00
Compensation for workmen	5,085 66	5,085 66
Total Treasury Board Minutes	$1,282,206 15	$1,258,169 12

REPORT FOR 1933

OF

The Workmen's Compensation Board

ONTARIO

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

SESSIONAL PAPER No. 28, 1934

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1934

To Colonel The Honourable Herbert A. Bruce, R.A.M.C., M.D., F.R.C.S.,
Lieutenant-Governor of the Province of Ontario:

May It Please Your Honour:

The undersigned has the honour to transmit herewith the Nineteenth Report of The Workmen's Compensation Board of Ontario, for the year ending 31st of December, 1933.

Respectfully submitted,

William H. Price,
Attorney-General.

Toronto, March 26th, 1934.

THE WORKMEN'S COMPENSATION BOARD

V. A. SINCLAIR, K.C., Chairman
H. J. HALFORD, Vice-Chairman
GEO. A. KINGSTON, Commissioner
N. B. WORMITH, Secretary

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REPORT FOR 1933

OF

THE WORKMEN'S COMPENSATION BOARD

ONTARIO

To His Honour the Lieutenant-Governor:

The Workmen's Compensation Board begs leave to submit its Report for the year 1933, being the nineteenth year of the operation of the Act.

GENERAL REVIEW

Premises

The Board's offices continue as heretofore on the 11th and 12th floors of the Metropolitan Building, corner of Adelaide and Victoria Streets, Toronto.

Accidents

The Board has entered the millionaire class in number of accidents reported since the commencement of the Act, the number reported up to the end of 1933 being 1,008,083. The year 1933 shows a further decrease in the number of accidents reported to the Board, the number in 1932 being 41,470, and in 1933, 38,042, but the decrease has not been so rapid, as in 1932 there were over 21 per cent. less accidents than in 1931, whereas the decrease in 1933 over 1932 was only about 8 per cent. From August to the end of the year each month showed an increase in the number of accidents over the same month of the year 1932, indicating that there was a sustained increase in employment in industry under the Act for the latter part of the year 1933. The largest number of accidents reported in any month during the year was in November, amounting to 3,734. The allowed claims in 1933 numbered 33,706, as compared with 43,904 in 1932. Out of the 29,766 claims allowed in Schedule 1, 16,510 were for medical aid only. Death claims allowed in 1933 numbered 167, which was substantially less than in 1932, when there were 283.

The number of employers reporting under Schedule 1 again decreased, from 21,058 in 1932 to 19,600 in 1933, nearly 60 per cent. of this decrease in number being in connection with Class 24, the construction class. The only class showing any substantial increase in number of employers was Class 5, the mining class. The provisional pay rolls reported to the Board showed a further decrease, from $331,582,000 for 1932 to $286,273,000 in 1933, although the percentage of decrease was less, the wage rolls for 1932 being 19 per cent. less than those for 1931, whereas the pay rolls for 1933 were only 14 per cent. less than those for 1932. A large decrease in pay rolls followed the decrease in number of employers in Class 24, the pay rolls decreasing from $21,757,000 in

1932 to $11,130,000. On the other hand, while Class 1, the lumbering industry, showed a considerable decrease in number of employers, it showed an increase in the estimated pay rolls from $3,890,000 to $3,950,000.

Benefits

The total amount of benefits awarded showed a further decrease, being $3,699,068.95 in 1933, as compared with $5,125,620.56 in 1932. Of such benefits in 1933, compensation amounting to $2,298,787.97 was awarded in Schedule 1 industries, $401,297.49 in Schedule 2, and $331,401.80 in Crown cases. The medical aid paid in Schedule 1 amounted to $667,581.69, as compared with $817,240.38 in 1932. The total benefits which have been awarded since the commencement of the Act to December 31, 1933, amounted to $100,749,307.36.

Average Rates of Assessment

Based on the estimated wage expenditure, the average rate of assessment in all classes in Schedule 1 shows a further reduction, from $1.07 in 1932 to 98 cents in 1933, whereas the average over all years is $1.16.

Administration Expenses

The Board, for the fourth year in succession, has not made any increase in salaries, and has followed the practice of the Provincial Government Civil Service in deducting the same percentage as is deducted in the Government service from the salaries of the Board and all members of the staff, and in addition has reduced the number of employees as reduction of work would justify. The administration expenses in 1932 amounted to $325,328.21, whereas in 1933 they were decreased to $300,292.50, or a reduction of $25,035.71, making a reduction in two years of over $50,000 in the administration expenses.

While the reduction in number of accidents lessens the work in connection with new claims received, this is offset by applications for review, re-establishment of claims, and for special advances and commutations of pensions and infants' moneys, all of which require to be carefully investigated and dealt with. Increased attention also has been necessitated in the collection of assessments and the auditing of the books of employers.

The Chief Medical Officer has not only continued the practice of making periodical investigations of permanent disability and doubtful claims at Windsor, London, Ottawa, Kingston, Sudbury, Port Arthur, Fort William, and Kenora, but has also added to these examinations at Timmins, Kirkland Lake, and the mining district. This has been of great service to the Board in arriving at a better understanding of long-drawn-out cases and a better appreciation of the nature and extent of the injury present.

The operation of mine rescue stations and clinics for the examination of miners has continued to be carried on in connection with the Department of Mines.

All the administration expenses are now paid by the employers under the Act, and the expenses were divided among the employers in the following way: Silicosis Fund, $2,145.51; Mine Rescue Work, $647.47; Schedule 1 Employers, $233,759.95; Schedule 2 Employers, $25,784.96; Dominion Crown, $15,888.89; and Provincial Crown, $22,065.72.

It has been customary to estimate the percentage of administration expenses on the basis of benefits awarded only, but this is not considered a fair basis of estimating percentage, because the examination of claims and the awarding of benefits is only one branch of the Board's work. In addition to this, the Board has to assess over 20,000 employers in Schedule 1 as well as collect from employers in Schedule 2, and also invest and re-invest the funds set aside for pension reserves and keep a very complete and elaborate system of statistics, and the Board considers that these various services should be taken into account. The total administration expenses for 1933 chargeable to Schedule 1 employers (less expenses of supervising work in connection with silicosis and mine rescue stations not properly administrative work) were about 3.94 per cent. of all benefits awarded and collections made in Schedule 1. The Board considers this a much fairer basis of computation of this percentage than simply having regard to the one branch of its work i.e., the passing of claims and awarding of benefits.

Amendments

Amendments were made to the Act in the Session of 1933 by 23 George V, Chapter 70, assented to on April 18th, 1933.

These amendments made changes in connection with the merit rating system and restored to the Board the power to establish a general system of merit rating, and also enabled the Board to reduce the amount of any contribution to the accident fund of any employer whose industry conformed to modern standards and whose accident record was consistently good and who had taken all proper precautions for the prevention of accidents. Section 4 of the amendment repealed the old provisions in respect to the industrial disease of silicosis and substituted new provisions which very substantially change the law and should be carefully studied by those interested in this industrial disease.

Safety Associations and Mine Rescue Work

Part of the work carried on under The Workmen's Compensation Act is the work of the safety or accident prevention associations in which the work of accident prevention and reduction of accident costs is carried on by the different employers in the classes represented, through their boards of directors, the cost of this work being assessed by the Board against the employers in the classes represented. There are in operation five accident prevention associations, representing different classes, the Industrial Accident Prevention Associations representing the employers in seventeen different classes, the others being specially devoted to the one class represented by them. These different associations have been trying to increase the efficiency and practical nature of their work and have been more and more studying the cost ratio of individual employers and finding out the cause of accident costs in connection with individual employers who show a bad cost ratio, and trying to ascertain the reason of such bad accident experience and to assist by recommendations and suggestions in the improvement of the hazard of such industry. In this way there has been great improvement in the accident experience of individual employers. The amount spent in such work during the year 1933 was $136,381.51, as compared with $157,119.97 in 1932. The amount paid to each of the associations was as follows: Lumbermen's Safety Association, $19,097.09; Ontario Pulp and Paper Makers' Safety Association, $13,856.63; Class 5 Accident Prevention Association, $4,700; Industrial Accident Prevention Associations, $90 319.48; and Electrical Employers' Association of Ontario, $8,408.31.

The work of mine rescue stations has been carried on in connection with The Mining Act and there was spent in connection with these stations for maintenance, salaries, supplies, and supervision, $13,596.93.

First Aid

Attention is drawn to the necessity for keeping up the first aid kits in accordance with the provisions of the Act and renewing supplies from time to time so that they shall be adequate for the service for which they are intended.

Rehabilitation

The Board has continued its general rehabilitation work and during 1933 expended the sum of $5,108.07 in giving training to injured workmen in special trades and lines of industry through special courses in commercial and technical schools and in paying a certain proportion of the wages of injured workmen until they become rehabilitated in their industry, and in any other practical way assisting in restoring the injured workman to his place in industry.

In addition to this, the Board has carried on its rehabilitation clinic with very considerable success. During the year the total number of treatments given was 7,526. During the first year of its inception the Board considered a bookkeeping charge should be made against each case of $1.50 per treatment, which was considerably less than it had cost the Board previously in connection with similar treatments given in private institutions. With such a charge, the full cost of operation was paid, together with all the cost of equipment except a balance of $698.31. For the year 1933 it was decided to reduce the charge to $1.00 per treatment, and on this basis the full cost of operation and the balance due for equipment were paid and a balance was left to the credit of the clinic amounting to $354.10. The average cost per treatment figured out at about 87 cents. With the present staff and equipment the clinic is capable of handling 28 to 30 cases a day. During the course of the year occasionally the attendance ran as high as 38 in a day and it was necessary to take on extra help for part time. The operation of this clinic has resulted in a considerable saving to the Board in the cost of physiotherapy treatments as previously paid, and has resulted also in lessening the period of disability of the patients treated and in lessening the awards for permanent partial disability by greatly reducing the permanent disability present, and it also enables the Board to exercise a close supervision over suspected malingering, hysteria, or lowered morale.

The Board also desires to thank the employers who have assisted in the work of rehabilitating their injured workmen, and desires also to strongly urge the employers to assist in every way possible in this very important branch of the Board's work.

Rates of Assessment

In periods of depression such as the present very close attention is being given by employers to assessment rates, and any raise in rates is very closely scrutinized and the reason therefor very quickly demanded. The Board has endeavored to carry on without increase in the rates except where absolutely necessary owing to the bad accident cost experience of the particular class or group during the year, and if it is considered that another year will bring the class back to a condition of paying its way without a change in rate the Board has continued the rate even though it may not have completely paid the cost of the year's claims. The average general rate levied over the full pay roll in Schedule 1 would show a decrease, being 98 cents, as compared with $1.07 in 1932, and an average of $1.16 since the commencement of the Act. So far as the rates of assessment for the year were concerned, they showed by far the largest number of rates remained the same. The actual rates of assessment for 1933 and 1932 showed 66 increases, 45 decreases, 311 remained the same, and there were 7 new rates. The provisional rates for 1934 and 1933 showed 61 increases, 32 decreases, 330 remained the same, and 6 new rates, so that it would show that over 75 per cent. remained the same. This compares very favorably with the rates in other jurisdictions, as in many instances there has been very marked and general increase in rates.

Funds

The funds belonging to Schedule 1 industries are known and referred to as the "Accident Fund," comprising the current funds out of which temporary payments of compensation, medical aid, and administration expenses are paid, the Pension Fund, the Disaster Reserve Fund, and Compensation Deferred.

The amount standing at the credit of all classes as of 31st December, 1933, was $1,368,495.25, in accordance with the provisional financial statement, as compared with $1,607,908.14 at the end of 1932, this amount being deemed sufficient to cover all continuing, outstanding and unsettled claims in connection with any of the classes, with a reasonable margin of safety. The Board only desires to maintain sufficient in the Accident Fund to meet such outstanding and unsettled claims and to cover any contingencies, and this balance has been again somewhat lessened by reason of reduction in rates or maintaining rates where, if there had not been an amount to the credit of the particular class, the rates would have to have been raised.

The Disaster Reserve Fund, which is set aside to meet any unforeseen disaster or other circumstance which might unduly burden the employers in any industry, has not required any assessment to be levied during the year, and shows a balance on December 31, 1933, of $270,095.56, as compared with $257,875.59 at the commencement of the year. The addition consists of interest on the fund of $12,589.97 less the sum of $370 transferred to current fund in relief of classes affected by injuries to previously injured workmen.

The amount now standing at the credit of the Pension Reserve Fund in Schedule 1 is $19,777,085.78, as compared with $19,706,508.89 at the end of 1932. This represents the actuarial liability outstanding in connection with pensions actually granted by the Board, and is necessary to assure to all pensioners the ultimate payment of their claims in full. On the 31st of October, 1933, when the valuation was made of this Pension Fund, it showed that there were 7,120 pensioners alive and in receipt of pensions as of that date, of which number there were 4,055 workmen drawing pensions, 1,334 widows, 14 foster-mothers, 1,665 children, 42 mothers, 4 fathers, and 6 other pensioners.

The Board also has the "Compensation Deferred" Fund, which comprises compensation moneys awarded to claimants other than pensioners, payment of which is deferred to a future time by reason of the claimant being a minor or for other reason. The amount standing at the credit of this account at the end of 1933 was $54,751.57.

One of the important duties of the Board is the proper investment of these various funds, and outside of short date deposits of current funds all investments consist of Province of Ontario bonds, the debentures of Ontario municipalities or debentures guaranteed by Ontario municipalities, and Dominion of Canada bonds or bonds guaranteed by the Dominion of Canada. In common with other holders of bonds of Ontario municipalities, there have been defaults in payment of principal and interest by certain municipalities and in this respect there was a total of interest and principal payments in arrears as at December 31, 1933, amounting to $139,257.46, but the average rate received on the permanent investments of Schedule 1 during 1933 from interest actually paid was approximately 4.89 per cent., leaving the outstanding interest to increase this yield when paid.

In connection with Schedule 2 funds, there was standing at the credit of Schedule 2 employers on December 31, 1933, a total of $3,483,431.60, and the rate of interest received on Schedule 2 funds during 1933 amounted to 5.75 per cent., as compared with 5.68 per cent. during 1932.

Audit

A continuous audit of all the accounts of the Board has been carried on by Messrs. Fred Page Higgins & Company, the auditors appointed by the Lieutenant-Governor in Council under the provisions of Section 74 of the Act, and their certificate is attached to this report.

Contents of Report

In the different chapters and tables, as indicated in their headings, will be found information and particulars regarding compensation and assessments in the various industries, and explanations and particulars of the different funds of the Board; also an analysis and tabulation of the causes of accidents, the nature of injuries, and other information concerning accidents and workmen. The appendix contains a short summary of the operations from the commencement of the Act to the end of 1933.

CHAPTER I

SCHEDULE 1 INDUSTRIES FOR 1933

As some of the industries covered by the Act are under the collective liability system (the employer not being individually liable for accidents to his workmen but being assessed to provide a general fund out of which accidents occurring in his class of industry throughout the Province are taken care of) and others are under the individual liability system (the employer being liable to pay for accidents happening to his own workmen), separate financial statements have to be made for each. The industries under the collective liability system are included in Schedule 1, and those under individual liability in Schedule 2, the former comprising much the greater number.

This chapter deals with Schedule 1 industries for 1933. Schedule 2 industries are dealt with in Chapter II, while Chapter III deals with the work handled in both schedules and the administration of the Act generally during the year, Chapter IV with the different funds in both schedules and their standing at the end of 1933, and Chapter V gives financial and statistical information for 1932, which was not available when the report for that year was made.

Provisional Financial Statement

The provisional financial statement for the industries in Schedule 1 for 1933 is contained in Table 1. To show the standing for the year, estimates have to be made of adjustments of assessments according to actual pay rolls and on the retroactive rates (the assessments for the year being first levied on an estimate of pay roll and at a provisional rate), and estimates also have to be made of compensation and medical aid still to be awarded for accidents happening during the year which have not yet been finally disposed of by reason of the injured workman being still under medical treatment or reports not being received. These estimates contain also all liabilities for claims of previous years yet outstanding and provision for claims of prior years which may subsequently be adjusted. Final figures for the year 1933 will be shown in the next subsequent report in the same manner as the final figures for 1932 are shown in Table 15 of this report.

The difference is to be noted between the amount of compensation and medical aid awarded for the year's accidents and the amount awarded during the year. The latter is partly for the prior year's accidents, while upon the other hand it does not cover all the liability for the current year's accidents. The more correct system of charging each year as far as possible with its own accidents, and for that purpose keeping the year's accounts open till the end of the subsequent year, has been adopted, rather than the looser method of taking the amount awarded during the year as the cost of the year's accidents and leaving always an outstanding liability unprovided for. For the purpose of information and comparison, however, the amounts awarded during the yea- are shown in Chapter III.

Accounts for Each Class

The industries in Schedule 1 are divided into classes, and as each class (subject to any transfer that may be made to it from the Disaster Reserve in any case of undue burden) bears its own accident cost—the employers in the class being in effect a mutual insurance association—separate accounts have to be kept for the different classes. Each class is credited with its own assessments, its share of interest and other income, and with any transfer made to it from Disaster Reserve, or credit from any other source, and is charged with the cost of its own accidents, its share of administration expenses, the cost of its safety association if it has one, and with its share of any amount set aside for Disaster Reserve.

The figures for each class, and the provisional surplus or deficit for the year, and the balance forward from prior years, and the provisional surplus or deficit for all years, are shown in Table 1. The final figures for each class and also the figures for the different groups within the classes (as in Table 15) will be shown in the next report. The assessments are fixed according to the accident cost and other expenses and charges in each class and group and having regard to the other income and credits.

The classes are numbered and the nature of the industries in each is shown at the bottom of Table 1 and full enumeration of the industries will be found in Schedule 1 of the Act and in the Board's rate book, the latter also showing the grouping within the class.

Assessments and Other Credits

The total assessments in all the classes of Schedule 1 for the year 1933, including estimated adjustments, amounted to $2,794,766.91. In assessments are included collections for default in making returns or payments and interest for under and over estimate of pay roll. The other income and credits for the year consisted of interest received other than credited to the Pension Fund, and Compensation Deferred, as shown in Chapter IV; reimbursement for veteran cases, received from the Department of Pensions and National Health; cost of accidents collected under Section 105 for failure to furnish pay roll prior to accident; recovery from third parties under Section 8; collections under Section 112 (3) from employers for failure to furnish particulars of accidents; transfers from the Disaster Reserve; and refunds of accident cost. Other income and credits amounted to $191,502.12. The total income and credits for the year are, therefore, $2,986,269.03, of which $94,995.58 is to be refunded for merit rating. The net income and credits for the year are, therefore, $2,891,273.45.

Compensation and Other Charges

The compensation for Schedule 1 industries for the year including estimate for what is still to be awarded for accidents happening during the year and for adjustment of prior years' accidents, amounted to $2,337,730.53; the medical aid, including estimate for what is outstanding, amounted to $648,567.83; the administration expenses for Schedule 1 including $13,596.93 for mine rescue work, amounted to $247,356.88; and $136,381.51 was paid to employers' safety associations. The total expenditures and charges for the year were $3,370,036.75.

The provisional deficit for the year was $478,763.30. The balance forward from prior years was a surplus of $1,847,258.55, which, added to the deficit for the year, makes a net provisional surplus of $1,368,495.25 at December 31, 1933.

Number of Employers

Total number of employers listed in Schedule 1 at the end of 1933 was 19,600 as compared with 21,058 at the end of 1932. The number in each class and group of industry is shown in Table 2.

Wage Expenditure

The estimated total wage expenditure in Schedule 1 industries for the year 1933, calculated on provisional figures, is $286,273,000, as compared with $331,582,000 in 1932. The amounts for the different classes of industry are shown in Table 3.

The Board has no similar data for Schedule 2 and Crown industries as in these the employers pay for the accidents to their own workmen and are not required to make pay roll returns or pay assessments upon them as in Schedule 1. The pay roll would probably be about one-third that of Schedule 1.

Average Rates of Assessment

Assessments in Schedule 1 are in the form of a percentage of pay roll and the average rate or percentage over all the classes actually paid by the employers can be ascertained by relating the total assessments to the total wage expenditure. This, on the provisional figures, gives an average rate of assessment for 1933 of 98 cents on every $100 of pay roll. The average over all years since the commencement of the Act was $1.16.

TABLE 2

NUMBER OF FIRMS IN SCHEDULE 1, BY CLASSES AND GROUPS, DECEMBER 31, 1933

Class	Group 0	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	TOTALS
1	54	61	684	......	......	......	......	......	......	......	799
2	37	39	12	......	......	......	......	......	......	......	88
3	123	34	17	111	......	......	......	......	......	......	285
4	345	53	67	27	128	......	......	......	......	......	620
5	21	160	5	119	......	9	17	12	......	......	343
6	76	105	8	149	52	109	111	......	......	......	610
7	4	9	......	......	......	......	......	......	......	......	13
8	92	8	48	35	......	......	......	......	......	......	183
9	16	12	1	13	163	17	......	......	......	......	222
10	312	305	31	57	55	25	176	115	......	......	1,076
11	41	785	50	2	......	......	......	......	......	......	878
12	70	248	117	18	241	......	......	......	......	......	694
13	552	110	......	......	......	......	......	......	......	......	662
14	128	......	......	......	......	......	......	......	......	......	128
15	352	271	79	273	73	260	42	......	......	......	1,350
16	52	94	68	26	41	......	......	......	......	......	281
17	130	143	41	......	......	......	......	......	......	......	314
18	669	167	......	......	......	......	......	......	......	......	836
19	304	551	58	58	......	......	......	......	......	......	971
20	1,143	1,019	......	......	......	......	......	......	......	......	2,162
21	395	196	......	......	......	......	......	......	......	......	591
22	462	......	......	......	......	......	......	......	......	......	462
23	66	46	305	......	......	......	......	......	......	......	417
24	578	281	683	332	998	758	264	126	1,315	280	5,615
All											19,600

TABLE 3

ESTIMATE OF WAGE EXPENDITURE, SCHEDULE 1, BY CLASSES, FOR 1933

Class	Wage Expenditure
1	$3,950,000
2	9,650,000
3	4,818,000
4	5,574,000
5	22,666,000
6	4,169,000
7	4,261,000
8	5,117,000
9	8,257,000
10	28,216,000
11	14,626,000
12	20,432,000
13	4,473,000
14	5,324,000
15	33,553,000
16	15,189,000
17	21,309,000
18	20,417,000
19	22,319,000
20	8,450,000
21	6,170,000
22	4,078,000
23	2,125,000
24	11,130,000
TOTAL	$286,273,000

CHAPTER II

SCHEDULE 2 INDUSTRIES DURING 1933

Table 4 is a statement of the compensation awarded and the moneys handled during 1933 in Schedule 2 industries (in which the employer is individually liable for accidents to his workmen). Dominion Crown Cases under the Act by Dominion legislation, and Provincial Crown Cases referred to the Board for adjustment, are included.

The total amount of compensation awarded in Schedule 2 industries and Crown Cases during 1933 was $732,699.29. Of this amount, $151,000.44 was for workmen of municipal corporations; $195,162.35 for steam railroads; $5,646.79 for electric railways; $31,792.29 for navigation companies; $3,526.91 for express and sleeping car companies; $14,168.71 for telephone and telegraph companies; $215,063.12 for Dominion Crown Cases, and $116,338.68 for Provincial Crown Cases. Of the total amount awarded, $416,479.03 was for pensions in pension cases, and $316,220.26 for cases not pension cases and for compensation not pensions in pension cases.

In pension cases, except in the case of municipal or government bodies or departments thereof, not so desiring, deposits must be made by employers in Schedule 2 industries. Particulars of these are given under "Deposits under Section 28." Under "Claimants' Moneys" are included moneys held by the Board under awards in which in the interest of the claimant, or for some other reason, payment of the amounts held is deferred to a later date, as in the case of minors. "Deposits under Section 32" are amounts deposited with the Board to enable the Board to make prompt payments without waiting for receipt of cheque from employer.

Employers in Schedule 2 are assessed their share of the expense of administration as set out in Table 8. For 1933 that share amounted to $25,784.96, as compared with $24,189.86 in 1932, and $28,066.83 in 1931. Proportionate to the amount of compensation awarded, administration expenses in Schedule 2 and Crown Cases were 8.71 per cent. in 1933, as compared with 5.85 per cent. in 1932, and 5.39 per cent. in 1931.

Further information as to Schedule 2 funds and particulars of Schedule 2 investments are given in Chapter IV, and in Tables 9 and 14, and in the Appendix.

TABLE 4

STATEMENT FOR SCHEDULE 2 DURING 1933

SCHEDULE 2 AWARDS

	Awards Not Pensions	Pensions	TOTALS
Municipal Corporations, etc.	$66,815 44	$84,185 00	$151,000 44
Steam Railroads	62,149 70	133,012 65	195,162 35
Electric Railways	2,051 79	3,595 00	5,646 79
Navigation Companies	22,190 29	9,602 00	31,792 29
Express and Sleeping Car Companies	3,526 91	....	3,526 91
Telephone and Telegraph Companies	4,380 33	9,788 38	14,168 71
Dominion Crown Cases	108,189 12	106,874 00	215,063 12
Provincial Crown Cases	46,916 68	69,422 00	116,338 68
TOTALS	$316,220 26	$416,479 03	$732,699 29

SCHEDULE 2 FUNDS

Deposits under Section 28

Cash in bank and invested, January 1, 1933	$3,455,621 91	
Deposits received from employers	155,931 72	
Interest received	187,925 16	
Paid to pensioners		$332,628 46
Deposits returned to employers		85,807 94
Cash in bank and invested, December 31, 1933		3,381,042 39
	$3,799,478 79	$3,799,478 79

Claimants' Moneys

Cash in bank and invested, January 1, 1933	$24,483 45	
Deposits received from employers	4,043 99	
Interest received	1,348 13	
Paid to claimants		$6,025 09
Cash in bank and invested, December 31, 1933		23,850 48
	$29,875 57	$29,875 57

Deposits under Section 32

Cash in bank and invested, January 1, 1933	$50,059 10	
Deposits received from employers	708,323 61	
Payments made—Compensation and Medical Aid		$703,602 25
Deposits returned to employers		10,217 29
Cash in bank, December 31, 1933		44,563 17
	$758,382 71	$758,382 71

TOTALS OF FUNDS

Cash in bank and invested, January 1, 1933	$3,530,164 46	
Deposits received from employers	868,299 32	
Interest received	189,273 29	
Payments made		$1,042,255 80
Deposits returned to employers		96,025 23
Cash in bank and invested, December 31, 1933		3,449,456 04
	$4,587,737 07	$4,587,737 07

CHAPTER III

WORK HANDLED DURING 1933

This chapter deals with the work handled during 1933 and with the administration of the Act generally during the year. Particulars are given in Tables 5 to 8.

The figures are for what has been dealt with during 1933 without regard to the year in which the accidents dealt with occurred, while as explained in Chapter I the figures in Chapter I and Chapter V are for the accidents happening during the year.

Benefits Awarded During the Year

The total amount of compensation awarded during 1933 was $3,031,487.26, of which $2,298,787.97 was in Schedule 1 industries, $401,297.49 in Schedule 2 industries, and $331,401.80 in Crown cases. There was also paid for medical aid in Schedule 1 during the year $667,581.69, making the total benefits awarded during the year $3,699,068.95. In Schedule 2 and Crown cases medical aid is provided directly by the employer and no figures are available.

The benefits awarded during each year and the total since the commencement of the Act are as follows:

	Schedule 1		Schedule 2 and Crown	Total
Year	Compensation	Medical Aid	Compensation	Benefits
1933	$2,298,787 97	$667,581 69	$732,699 29	$3,699,068 95
1932	3,202,639 27	817,240 38	1,105,740 91	5,125,620 56
1931	3,917,045 43	1,060,763 01	1,043,583 66	6,021,392 10
1930	4,942,756 25	1,336,046 05	1,144,216 52	7,423,018 82
1929	5,346,621 19	1,385,524 62	1,280,011 97	8,012,157 78
1928	4,565,688 56	1,166,507 54	1,335,750 83	7,067,946 93
1927	3,930,417 59	1,062,859 64	1,091,377 64	6,084,654 87
1926	3,664,039 94	988,486 70	1,168,825 26	5,821,351 90
1925	3,635,530 27	875,836 01	1,054,077 11	5,565,443 39
1924	4,052,287 77	835,956 60	1,234,575 97	6,122,820 34
1923	4,036,170 26	788,905 90	1,348,785 58	6,173,861 74
1922	3,417,101 61	692,819 94	1,582,975 06	5,692,896 61
1921	3,858,017 50	662,793 89	1,668,452 10	6,189,263 49
1920	5,113,149 77	703,705 66	1,963,389 82	7,780,245 25
1919	2,808,638 65	386,298 51	997,922 77	4,192,859 93
1918	2,751,137 45	369,346 37	763,511 02	3,883,994 84
1917	2,286,954 99	*83,514 07	623,556 37	2,994,025 43
1916	1,553,653 38	†..........	451,709 93	2,005,363 31
1915	692,389 09	†..........	200,932 03	893,321 12
Totals	$66,073,026 94	$13,884,186 58	$20,792,093 84	$100,749,307 36

*Half year only. †No provision for medical aid.

The increase in benefits from the early years is largely by reason of increase in wages, compensation being for the most part a percentage of wages, and additional industries have been covered, and some material changes were made in compensation. The large total for 1920 is by reason of the retroactive increase in widows' and children's pensions, and the small amount awarded during 1915 is by reason of many 1915 accidents not being, nor capable of being, finally disposed of till the following year. The amount of benefits awarded for each year's accidents, as distinguished from the amount awarded during the year, is shown in Chapter V.

Accidents Reported During the Year

During 1933, 38,042 accidents were reported. These included some not serious enough to involve payment of either compensation or medical aid and for which no claim was made, and others for which claims were made but which were not allowed by the Board.

At the close of the year there were 1,032 claims in assembly, as compared with 765 at the end of 1932, notice of the accident having been given but reports necessary to deal with the case not yet having been received.

The number of accidents reported each year and the total number since the commencement of the Act are as follows:

Year	Schedule 1	Schedule 2	Crown	Totals
1933	33,227	1,890	2,925	38,042
1932	35,264	2,474	3,732	41,470
1931	46,069	3,348	3,477	52,894
1930	61,490	4,486	3,291	69,267
1929	76,029	6,008	5,066	87,103
1928	69,011	5,815	4,572	79,398
1927	62,063	5,412	4,504	71,979
1926	57,032	4,942	3,942	65,916
1925	50,883	5,079	4,050	60,012
1924	49,558	4,916	4,201	58,675
1923	51,655	6,080	3,374	61,109
1922	42,139	7,124	1,148	50,411
1921	36,272	7,666	1,253	45,191
1920	46,177	7,222	1,452	54,851
1919	36,236	7,918	106	44,260
1918	40,662	7,113	73	47,848
1917	30,701	5,813	18	36,532
1916	21,269	4,806	17	26,092
1915	13,878	3,144	11	17,033
All Years	859,615	101,256	47,212	1,008,083

Accidents Paid For During the Year

Table 5 shows the number of accidents in which compensation or medical aid was paid during the year. The total number was 33,706, as compared with 43,904 during 1932. The 33,706 comprised 167 deaths, fourteen permanent total disability cases, 1,526 permanent partial disability cases, 15,489 temporary disability cases, and 16,510 cases in which medical aid only was paid. Schedule 2 and Crown cases involving medical aid only, which are a large proportion of the accidents reported, are not included as accidents paid for, as the medical aid is furnished directly by the employer.

The number of accidents in which compensation or medical aid was awarded each year since the commencement of the Act is as follows:

Year	Schedule 1	Schedule 2	Crown	Totals
1933	29,766	1,487	2,453	33,706
1932	38,469	1,914	3,521	43,904
1931	43,611	2,561	2,710	48,882
1930	56,715	2,723	2,357	61,795
1929	68,195	2,883	2,737	73,815
1928	61,384	2,723	2,425	66,532
1927	55,894	2,741	2,443	61,078
1926	52,199	2,489	2,182	56,870
1925	47,782	2,734	2,217	52,733
1924	46,616	2,820	2,475	51,911
1923	47,873	3,849	1,916	53,638
1922	37,172	4,572	765	42,509
1921	34,271	5,161	834	40,266
1920	42,693	4,444	714	47,851
1919	34,400	4,517	153	39,070
1918	36,565	4,335	30	40,930
*1917	25,277	3,406	19	28,702
*1916	15,370	2,825	3	18,208
*1915	8,328	1,494	7	9,829

*Cases involving medical aid only not covered till July 1, 1917.

Awards Changed

In addition to claims compensated, as shown in Table 5, the Board in 1933 opened for further award 685 claims which had been settled previously.

Cheques, Assessments, Mail and Callers

In all 194,584 cheques were issued during the year, an average of about 648 daily, and there were 25,200 assessments made, including refunds. About 3,800 pieces of mail were handled daily, and the average number of office callers was thirty-nine a day.

Receipts and Payments

The receipts and payments during the year are shown in Table 6, the statement for Schedule 2, including Crown cases. Explanation of the items and the funds referred to will be found in other parts of the report. A summary of receipts and payments since the commencement of the Act is given in the Appendix.

Payments to Safety Associations

The safety or accident prevention associations are organizations of employers established under the authority of the Act by the employers in twenty-one out of the twenty-four classes of industry. They are under the management of the employers, but the expenses are paid by the Board out of the accident fund.

The total amounts so paid are set out in Table 7, which table also shows the amount paid out on account of mine rescue work in Class 5.

Administration Expenses

The administration expenses of the Board, analysed under the different headings, are shown in Table 8. The gross administration expenses during 1933 were $311,653.24, which included special statistical services for which refunds have been received of $11,142.09, and refunds on account of claimants' travelling expenses of $218.65, making the total administration expenses $300,292.50, as compared with $325,328.21 during 1932. The employers pay the whole expense of the administration of the Act. The amount is divided according to the accidents handled among Schedule 1 (Accident and Silicosis Funds), Schedule 2, and Dominion and Provincial Crown.

The amount charged to the Silicosis Fund was $2,145.51; to Mine Rescue Work, $647.47; and to Schedule 1 employers, $233,759.95; to Schedule 2, $25,784.96; to Dominion Crown, $15,888.89; and to Provincial Crown, $22,065.72.

The cost of office furniture, fixtures, and equipment, including permanent equipment, has always been charged to administration expenses in the year in which payment therefor was made, and no entry for which has ever been made in the standing of the funds. The value of this furniture and equipment at the present time is estimated at about $25,000.

The total administration expenses for 1933 less expenses of supervising work in connection with silicosis and mine rescue stations (not properly administrative work) and handling claims for silicosis were 3.94 per cent. of all benefits awarded and collections made in Schedule 1: the work of collection of assessments, handling of funds for investment, etc., being just as onerous as the settlement of claims.

TABLE 5

COMPENSATION, MEDICAL AID, AND ACCIDENTS PAID FOR DURING 1933

Compensation Awarded during 1933

Schedule 1	$2,298,787 97
Schedule 2	401,297 49
Crown Cases	331,401 80
Total	$3,031,487 26

Medical Aid Paid during 1933

Schedule 1	$667,581 69
Schedule 2	furnished by employer
Crown Cases	furnished by employer

Accidents Paid For during 1933

	Medical Aid only	Temp. Dis.	Perm. Partial Dis.	Perm. Total Dis.	Death	Totals
Schedule 1—						
Full Compensation	......	10,563	1,290	12	102	11,967
Part Compensation	......	1,276	......	....	13	1,289
Medical Aid only	16,510	......	......	....	....	16,510
Totals	16,510	11,839	1,290	12	115	29,766
Schedule 2—						
Full Compensation	......	1,193	109	....	32	1,334
Part Compensation	......	150	......	....	3	153
Totals	......	1,343	109	....	35	1,487
Crown Cases—						
Full Compensation	......	2,138	127	2	15	2,282
Part Compensation	......	169	......	....	2	171
Totals	......	2,307	127	2	17	2,453
GRAND TOTALS	16,510	15,489	1,526	14	167	33,706

TABLE 6

STATEMENT OF RECEIPTS AND PAYMENTS DURING 1933

Schedule 1

Receipts		
Cash in Banks, Jan. 1, 1933:		
Canadian Bank of Commerce	$634 38	
Dominion Bank	5,139 96	
Royal Bank of Canada.....	5,595 86	
		$11,370 20
Net Assessments, Penalties, etc.:		
Gross Assessments.......	$2,568,211 00	
Under Sec. 8...	10,460 32	
Under Sec. 105.	3,663 36	
Under Sec. 112 (3).........	111 16	
From D.P. and N.H........	7,005 02	
From Accident Cost Refunds	7,889 67	
	$2,597,340 53	
Less:		
Assessments and Penalties refunded....	125,343 99	
Merit Rating Refunds.....	1,810 74	
	$127,154 73	
		2,470,185 80
Interest.........	$1,130,178 89	
Exchange.......	7,001 92	
Apportionment of Discounts on Debenture Purchases applicable to 1933 (See Contra)...	44,543 68	
	$1,181,724 49	
Less:		
Interest charged on Bank Overdraft........	6,151 80	
		1,175,572 69
From Schedule 2 Employers and Dominion Crown for Administration Expenses, account of prior years paid out of Schedule 1 in 1932.........		64,657 34
Principal returned from Investments.........	$95,258 73	
Decrease in value of investments by amortization of premiums...	53,743 84	
		149,002 57
Silicosis.....................		564,797 57
Special Statistical Services....		11,142 09
Rehabilitation Clinic:		
Refunds from Medical Aid..	$6,862 00	
From Schedule 2 Employers	664 00	
		7,526 00
Bank Overdraft, December 31, 1933, Dominion Bank.......		419,176 99
		$4,873,431 25

Payments		
Compensation paid other than Pensions and Compensation Deferred..................		$1,254,852 46
Pensions Paid................		1,889,130 25
Deferred Compensation Paid..		36,933 51
Rehabilitation Paid...........		5,108 07
Medical Aid Paid............		649,571 04
Silicosis Paid................		109,201 59
Paid under Section 8..........		561 92
Mine Rescue Work paid......		12,949 46
Administration Expenses......		311,434 59
Paid to Safety Associations....		136,381 51
Rehabilitation Clinic Expenses.		6,473 59
Investments.....	$410,858 52	
Increase in Book Value of Investments by Apportionment of Discounts on Debenture Purchases applicable to 1933 (See Contra)...	44,543 68	
		455,402 20
Cash in Banks, December 31, 1933:		
Canadian Bank of Commerce	$3,965 45	
Royal Bank of Canada.....	1,465 61	
		5,431 06
		$4,873,431 25

TABLE 6—Continued

Schedule 2

RECEIPTS		
Cash in Imperial Bank, Jan. 1, 1933		$70,996 37
From Employers, Deposits under Section 28		155,931 72
From Employers, Claimants' Moneys		4,043 99
From Employers, Deposits under Section 32		708,323 61
Interest	$180,804 57	
Exchange	99 71	
Apportionment of Discounts on Debenture Purchases applicable to 1933 (See Contra)	7,371 38	
Profit on Sale of Securities	997 63	
		189,273 29
Principal returned from Investments	$49,652 37	
Decrease in value of Investments by amortization of premiums	869 14	
		50,521 51
		$1,179,090 49

PAYMENTS		
To Claimants out of Deposits under Sec. 28		$332,628 46
Deposits returned to Employers under Section 28		85,807 94
To Claimants out of Claimants' Moneys		6,025 09
Paid out of Deposits under Section 32 for Compensation	$625,493 47	
For Medical Aid	78,108 78	
		703,602 25
Deposits returned to Employers under Section 32		10,217 29
Increase in Book Value of Investments by Apportionment of Discounts on Debenture Purchases applicable to 1933 (See Contra)		7,371 38
Cash in Imperial Bank, Dec. 31, 1933		33,438 08
		$1,179,090 49

TABLE 7

PAYMENTS TO SAFETY OR ACCIDENT PREVENTION ASSOCIATIONS, 1933

Association	Class	Total Payments	
Lumbermen's Safety Association	1	$19,097 09	
Ontario Pulp and Paper Makers' Safety Association	2	13,856 63	
Class 5 Accident Prevention Association	5	4,700 00	
Industrial Accident Prevention Associations	3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 23, 24	90,319 48	
Electrical Employers' Association of Ontario	22	8,408 31	
TOTAL			$136,381 51

PAYMENTS FOR MINE RESCUE WORK (CLASS 5), 1933

Maintenance of Stations, Salaries and Supplies	$12,949 46	
Administrative Supervision	647 47	
		$13,596 93

REHABILITATION CLINIC ACCOUNT, 1933

Deficit from 1932	−$698 31	
Receipts during year	7,526 00	
	$6,827 69	
Payments during year	6,473 59	
Balance, December 31, 1933		$354 10

TABLE 8

ANALYSIS OF ADMINISTRATION EXPENSES DURING 1933

Salaries of Board and Staff		$237,264 89	
Travelling Expenses of Board and Staff		9,891 15	
Printing, Stationery and Office Supplies		12,071 34	
Postage		17,951 29	
Telephone, Telegraph and Express		1,332 48	
Legal Expenses, Witness Fees, etc.		688 17	
Medical Examinations, X-ray Supplies, etc.		916 50	
Insurance and Security Service		2,337 79	
Special Expenses of Investigation of Fraudulent Cases		317 87	
Auditors' Services, under instructions of Attorney-General		3,500 00	
Rent of Premises, Electric Current and Miscellaneous Services		25,271 46	
Permanent Equipment		110 30	
Gross Administration Expenses, 1933		$311,653 24	
Received for Special Statistical Services	$11,142 09		
Refunds on Account of Claimants' Travelling Expenses	218 65		
		11,360 74	
Total Administration Expenses			$300,292 50
Charged to Silicosis Fund		$2,145 51	
Charged to Mine Rescue Work		647 47	
Charged to Dominion of Canada		15,888 89	
Charged to Province of Ontario		22,065 72	
Charged to Schedule 2 Employers		25,784 96	
Charged to Schedule 1 Employers		233,759 95	
			$300,292 50

CHAPTER IV

CONDITION OF FUNDS

A general statement of the condition of the funds in Schedule 1 and in Schedule 2 is contained in Table 9, and particulars of the various funds and of the Board's investments are given in Tables 10 to 14. A summary since the commencement of the Act will be found in the Appendix.

Schedule 1 Funds

The Schedule 1 funds are known and referred to in the Act as the "Accident Fund." They comprise, in addition to current funds out of which temporary payments of compensation, medical aid, and administration expenses are paid, the Pension Fund, Disaster Reserve, and Compensation Deferred. The standing of the Accident Fund, showing assets and liabilities, at December 31, 1933, is shown in Table 9. The balance of assets in excess of liabilities at that date was $2,060,838.71, being $270,095.56 Disaster Reserve, $422,247.90 accrued interest and interest due and unpaid on investments, and $1,368,495.25 standing at the credit of the classes December 31, 1933. This is exclusive of office equipment and furniture mentioned in Chapter III.

Pension Fund

The Pension Fund, representing the outstanding pension liability, comprises the largest part of the funds standing to the credit of Schedule 1. The purpose of the Pension Fund is to take care of future payments of pensions which have already been awarded. Actuarial tables (published as an Appendix to the report for 1922), embodying the contingencies of death and re-marriage, have been compiled to show for each age and kind of pension the average amount (sometimes referred to as capitalized value) necessary to complete pension payments. When a pension is awarded this average amount is transferred from current funds to the Pension Fund. All payments of pensions are made from the Pension Fund. Since the amount transferred in any one instance is the average amount required, no re-transfer is made should a residue be left at the expiry of the pension, nor is any additional transfer made should the amount be exhausted before expiry of the pension.

Re-Transfer from Pension Fund

During the years 1923 and 1924 an actuarial survey of the Board's pension experience and revaluation of the pension liability was made, all existing pensions being revalued. As a result the Pension Fund was found to be a little in excess of what the experience indicated to be necessary. As at date of January 1, 1924, a re-transfer of $600,000 was accordingly made from the Pension Fund to current funds, being distributed among the different classes of industry in proportion to the amount of Pension Fund to the credit of each class.

As of date October 31, 1925, actuarial revaluation of all outstanding pension fund obligations was made, the Board's actuarial tables being used. To the liability for each class thus ascertained was added a surcharge of two per cent. to allow for possible divergence of actual from expected mortality. Deduction was made of the surcharged liability in total for all the classes from the balance in the Pension Fund and the difference was re-transferred to the current funds, proportional to each class according to the balance in the Pension Fund. The sum transferred amounted to $427,214.62.

Further revaluation has been made as at date October 31, in each of the years commencing 1926. On October 31, 1933, the Pension Fund showed a balance of $19,717,243.23 with liabilities of $19,670,161.69, an excess of funds over liabilities of $47,081.54. This fund is to pay 7,120 pensioners alive and in receipt of pensions October 31, 1933. Of this number there were 4,055 workmen pensioned for disability, 1,334 widows, 14 foster-mothers, 1,665 children, 42 mothers, 4 fathers, and 6 others.

Particulars of Pension Fund

Table 10 gives particulars of the Pension Fund for each class. The balance in the fund at the commencement of 1933 was $19,706,508.89; $984,952.19 was transferred during the year for pension awards; $974,754.95 interest (at the rate of five per cent. per annum, compounded half-yearly, which is the basis used in computing capitalized values of pensions) was added; and $1,889,130.25 was paid for pensions. The balance in the fund at the end of the year was $19,777,085.78.

The transfers for pension awards during the year included $56,000.33 transferred from Silicosis Account to provide for pensions in cases of silicosis in Class 5.

Disaster Reserve

The Disaster Reserve is a fund set aside under the provisions of Section 99 (2) of the Act to meet any unforeseen disaster or other circumstance which might unduly burden the employers in any class of industry. The fund has been accumulated by a transfer of one per cent. of the gross assessments up to the end of 1922, and for the year 1928. These are the only moneys set aside or held by the Board which do not directly cover liabilities actually incurred by reason of accidents which have already happened.

The standing of the Disaster Reserve is shown in Table 11. The balance at the end of 1933 was $270,095.56, $12,589.97 interest being added to the $257,875.59 in the fund at the beginning of the year, and $370.00 transferred to the Current Fund.

Compensation Deferred

The funds included under "Compensation Deferred" comprise compensation moneys held at interest for claimants in Schedule 1, payment being deferred to a future time by reason of the claimant being a minor or for other reason. The condition of the fund is shown in Table 12. At the beginning of the year the amount on hand was $83,172.63, deferred awards during the year amounted to $5,594.58, and $2,917.87 interest was added during the year; the payments during the year amounted to $36,933.51, of which $33,634.19 was for principal and $3,299.32 for interest, leaving a balance of $54,751.57 at the end of the year.

Silicosis Account

Table 13 gives particulars of the Silicosis Account which was established to take care of special assessments and payments in Class 5 necessitated by the addition of "Silicosis" contracted in mining operations to the list of industrial diseases under the Act, by amendment effective April 8th, 1926. The balance in the account at the beginning of 1933 was $295,313.36; $564,797.57 was collected by assessment and $22,745.39 was added for interest: $104,281.00 was paid for compensation, $18,010.65 for medical aid, $40,203.48 for salaries and expenses in connection with examination of underground mine-workers; $2,706.79 for salaries and expenses of Referee Board; and $2,145.51 was transferred to the Accident Fund for the expenses of handling claims and supervision. The surplus in the account December 31, 1933, was $715,508.89.

Investments

Particulars of the Board's investments are given in Table 14.

The total invested at the end of the year in Schedule 1 was $24,312,212.42, consisting of $23,697,156.66 value of investments at the beginning of the year, $455,402.20 invested during the year, $308,656.13 accrued interest (earned but not received) less $149,002.57 principal returned.

Particulars of each investment are shown in the list, including kind of investment, particular security, yield of interest, term, par value, book value, and accrued interest.

With the exception of short-date deposits of current funds intended for use before the current year's assessments are received, all investments consist of Province of Ontario bonds, municipal or municipally-guaranteed debentures, and Dominion of Canada guaranteed bonds.

The average rate of interest received on permanent investments in Schedule 1 during 1933 was approximately 4.89 per cent., as compared with 5.25 per cent. in 1932, and 5.22 per cent. received during 1931. Three per cent. is received on current bank balances. The increase in interest rate for 1931 and 1932 was in part due to premiums on United States funds.

Schedule 2 Funds

The funds handled by the Board in respect of Schedule 2 industries include employers' deposits for pensions required to be made with the Board under the provisions of Section 28 of the Act, temporary deposits or advances of money made by employers under Section 32 to facilitate prompt payment of claims and claimants' moneys held by the Board in cases of awards, payment of which by reason of the claimant being a minor or for other reason is deferred to a future time.

The standing of Schedule 2 funds at December 31, 1933, is shown in the latter part of Table 9, and the particulars and a list of Schedule 2 investments are given in Table 14.

At the end of 1933 the deposits held under Section 28 amounted to $3,381,042.39, deposits under Section 32 to $44,563.17, the amount of claimants' moneys held by the Board was $23,850.48, and accrued interest, neither received nor apportioned, amounted to $33,975.56, making a total of $3,483,431.60, of which $3,416,017.96 was held in permanent investments and $33,438.08 was on deposit in the Imperial Bank and $33,975.56 was interest accrued on investments but not yet payable.

The rate of interest on Schedule 2 funds during 1933 was 5.75 per cent., as compared with 5.68 per cent. during 1932 and 5.81 per cent. during 1931.

TABLE 9

STANDING SCHEDULE 1 ACCIDENT FUND AS AT DECEMBER 31, 1933

Assets

Cash in Banks:		
Canadian Bank of Commerce	$3,965 45	
Royal Bank of Canada	1,465 61	
		$5,431 06
Short Date Deposits		225,000 00
Investments		23,778,556 29
Accrued Interest and Interest Due and Unpaid on Investments		422,247 90
Due from Schedule 2 Employers for Administration Expenses paid out of Schedule 1 Funds		25,860 86
Due from Dominion of Canada for Administration Expenses paid out of Schedule 1 Funds		15,888 89
Due from Province of Ontario for Administration Expenses paid out of Schedule 1 Funds		22,065 72
Assessments estimated to be due on adjustment of 1933 Pay Rolls. (See Table 1)	$74,375 00	
Less—Merit Rating Refunds to be made	94,995 58	
		– 20,620 58
		$24,474,430 14

Liabilities

Overdraft—Dominion Bank		$419,176 99
Compensation Deferred, other than Pensions		54,751 57
Pension Liability		19,777,085 78
Balance of Silicosis Account at Credit of Employers		715,508 89
Balance at Credit of Rehabilition Clinic Account		354 10
Compensation estimated outstanding		1,179,875 98
Medical Aid estimated outstanding		266,838 12
Assets in Excess of Liabilities:		
Disaster Reserve	$270,095 56	
Accrued Interest and Interest Due and Unpaid on Investments	422,247 90	
	$692,343 46	
Balance at Credit of Classes (Table 1)	1,368,495 25	
		2,060,838 71
		$24,474,430 14

STANDING SCHEDULE 2 FUNDS AS AT DECEMBER 31, 1933

Cash in Imperial Bank	$33,438 08
Investments	3,416,017 96
Accrued Interest on Investments	33,975 56
	$3,483,431 60

Balance Employers' Deposits under Section 28	$3,381,042 39
Balance Employers' Deposits under Section 32	44,563 17
Claimants' Moneys held by Board	23,850 48
Accrued Interest on Investments	33,975 56
	$3,483,431 60

TABLE 10

PENSION FUND, SCHEDULE 1 BY CLASSES, DECEMBER 31, 1933

Class	Balance Forward from 1932	Pension Awards during 1933	Interest Received	Pension Payments	Balance as at Dec. 31, 1933	Class
	$ c.	$ c.	$ c.	$ c.	$ c.	
1	2,017,085 33	19,077 18	97,975 26	182,620 36	1,951,517 41	1
2	995,560 10	24,496 08	43,864 73	85,157 65	983,763 26	2
3	275,757 97	9,870 44	13,539 08	26,508 93	272,658 56	3
4	635,360 55	32,861 02	31,359 88	64,673 20	634,908 25	4
5	2,708,651 11	†184,768 85	134,840 65	275,033 21	2,753,227 40	5
6	843,151 11	62,888 53	42,101 02	85,940 40	862,200 26	6
7	555,914 89	23,538 78	27,294 10	57,083 18	549,664 59	7
8	368,406 46	22,916 26	18,323 99	35,818 61	373,828 10	8
9	947,958 31	13,634 23	46,087 98	88,790 93	918,889 59	9
10	1,014,154 58	16,633 35	49,536 66	87,938 28	992,386 31	10
11	904,194 17	29,286 30	44,411 27	83,155 27	894,736 47	11
12	627,756 17	37,053 26	31,069 35	65,134 13	630,744 65	12
13	460,927 28	17,637 57	22,758 89	40,375 49	460,948 25	13
14	194,130 12	18,460 19	9,771 70	20,677 69	201,684 32	14
15	757,456 47	70,341 05	38,211 81	75,651 59	790,357 74	15
16	491,773 28	18,185 09	24,313 97	41,179 88	493,092 46	16
17	416,931 78	11,907 03	20,387 90	40,322 56	408,904 15	17
18	126,134 18	33,331 66	6,840 29	15,366 31	150,939 82	18
19	293,499 08	12,465 28	14,448 74	28,648 97	291,764 13	19
20	508,746 26	68,957 54	26,296 73	47,566 87	556,433 66	20
21	887,288 88	72,601 15	44,367 49	94,389 20	909,868 32	21
22	385,572 36	27,354 04	19,238 61	38,454 99	393,710 02	22
23	1,279,285 63	45,934 33	63,136 50	110,223 80	1,278,132 66	23
24	2,010,812 82	110,752 98	99,578 35	198,418 75	2,022,725 40	24
	19,706,508 89	984,952 19	974,754 95	1,889,130 25	19,777,085 78	

†Transferred from Silicosis Account: Class 5, $56,000.33.

TABLE 11

DISASTER RESERVE, DECEMBER 31, 1933

Disaster Reserve as at December 31, 1932	$257,875 59
Interest credited in 1933	12,589 97
	$270,465 56
Withdrawn account Class 17 Current Fund	370 00
Amount as at December 31, 1933	$270,095 56

TABLE 12

COMPENSATION DEFERRED, DECEMBER 31, 1933

Balance in fund, December 31, 1932		$83,172 63
Compensation awarded, payment deferred, during 1933		5,594 58
Interest credited for 1933		2,917 87
		$91,685 08
Paid claims during 1933:		
Principal	$33,634 19	
Interest	3,299 32	
		36,933 51
Balance, December 31, 1933		$54,751 57

TABLE 13

SILICOSIS ACCOUNT, DECEMBER 31, 1933

Balance in fund, December 31, 1932		$295,313 36
Assessments collected under Class 5		564,797 57
Interest credited for 1933		22,745 39
		$882,856 32
Payments made:		
For Compensation	$104,281 00	
For Medical Aid	18,010 65	
For Salaries and Expenses	40,203 48	
To Accident Fund for Supervision	2,145 51	
For Salaries and Expenses of Referee Board	2,706 79	
		167,347 43
Balance December 31, 1933		$715,508 89

TABLE 14

INVESTMENTS, DECEMBER 31, 1933

Schedule 1

Book Value of Investments, January 1, 1933	$23,697,156 66
Invested during Year	455,402 20
	$24,152,558 86
Less Principal Returned	149,002 57
Book Value of Investments, December 31, 1933, Principal	$24,003,556 29
Plus Accrued Interest to December 31, 1933	308,656 13
Total Book Value of Investments, December 31, 1933	$24,312,212 42

Schedule 2

Book Value of Investments, January 1, 1933	$3,459,168 09
Invested during Year	7,371 38
	$3,466,539 47
Less Principal Returned	50,521 51
Book Value of Investments, December 31, 1933, Principal	$3,416,017 96
Plus Accrued Interest to December 31, 1933	33,975 56
Total Book Value of Investments, December 31, 1933	$3,449,993 52

LIST OF INVESTMENTS

SCHEDULE 1 FUNDS

Municipal Debentures

Security	Yield Rate (Per Cent.)	Term	Par Value		Book Value		Accrued Interest	
			$	c.	$	c.	$	c.
Amherstburg	5.50	1934–1938	9,181	33	9,307	54	22	60
Belleville:	6.25	May 15, 1941	65,000	00	64,041	33	491	51
	5.35	Jan. 2, 1942	14,000	00	14,585	21	....	
	5.35	April 5, 1942	13,000	00	13,570	43	185	92
	5.30	May 1, 1952	120,000	00	122,812	26	1,103	02
	5.30	1947–1949	20,000	00	19,400	39	167	12
	5.041	1943–1954	156,000	00	147,320	97	1,769	45
	5.645	1946–1960	147,388	05	136,310	35	1,837	30
	5.798	1946–1950	17,856	38	16,494	88	146	70
	5.645	1945–1959	24,545	76	22,707	10	100	85
Blind River (guaranteed by Province of Ontario)	4.70	1934–1948	33,024	63	32,575	13	993	40
Bowmanville	5.27	1945–1949	41,035	25	39,955	41	1,371	60
Brampton:	5.50	Dec. 15, 1934	1,691	47	1,699	49	4	15
	5.50	1934–1944	1,899	99	1,803	22	3	50
Brantford:	6.25	Dec. 31, 1942	10,000	00	8,809	48	....	
	6.20	1934–1939	37,500	00	36,704	72	....	
	5.972	1937–1947	52,200	00	52,295	21	....	
	5.535	1940–1949	53,000	00	50,645	69	116	15
	4.95	1941–1953	13,000	00	13,703	67	31	34
	5.	Dec. 31, 1950	5,000	00	4,431	90	....	
Bridgeburg	5.	1950–1956	13,403	01	14,239	55	401	90
Burlington	4.80	1942–1951	10,843	18	11,057	20	106	95
Carleton Place	5.50	1934–1941	11,718	34	11,718	34	26	50
Collingwood (guaranteed by County of Simcoe)	5.45	1947–1951	191,000	00	181,837	98	784	90
Cornwall	5.20	1944–1953	51,862	79	53,506	55	1,437	95
Creemore (guaranteed by County of Simcoe)	5.375	Sept. 1, 1934	534	62	537	78	10	60
Dundas	5.375	1934–1946	15,682	56	15,787	99	285	90
East York:	5.446	1940–1965	172,187	29	162,803	55	1,438	81
	5.448	1940–1965	72,105	65	68,190	59	306	20
Englehart (guaranteed by Province of Ontario)	5.40	1945-1954	20,388	11	21,729	23	103	90
Essex, Village	5.50	1933 & 1934	1,266	00	1,256	46	43	60
Essex Border Utilities Commission	5.484	1942–1956	199,989	88	200,333	79	10,065	25
Etobicoke, Township:	5.017	1946–1949	45,000	00	47,214	04	1,356	17
	4.95	1940–1957	25,277	74	25,396	89	848	35
	5.19	1941–1957	71,000	00	69,569	72	593	30
	4.95	1940–1958	28,416	47	28,555	77	968	60
	6.50	1937–1948	91,071	95	82,441	61	972	35
Fort Erie:	5.05	1945–1961	50,715	22	53,582	36	229	25
	5.05	1944–1961	23,621	00	24,784	35	601	50
Fort William:	5.75	Feb. 1, 1944	25,000	00	23,540	04	523	97
	6.40	May 1, 1950	10,000	00	9,595	00	100	27
	5.125	April 1, 1955	55,000	00	54,114	34	685	62
	4.91	1946–1951	69,924	85	70,576	96	296	95
	4.91	July 1, 1952	34,672	60	35,049	37	....	
	4.91	July 1, 1947	42,751	00	43,127	86	....	
	5.07	April 1, 1959	76,000	00	75,238	21	947	40
Fort William (guaranteeing McKellar Hospital)	4.625	May 1, 1948	88,000	00	86,847	00	661	80
Forest Hill Village:	5.036	1943–1957	44,730	93	44,543	30	747	55
	5.15	1940–1948	112,061	49	110,971	29	460	50
	5.055	1934–1958	91,683	13	91,180	84	376	75
	5.75	1934–1939	64,034	46	63,118	87	526	30
	5.60	1940–1959	121,602	70	113,754	24	....	
	5.60	1934–1949	56,007	44	54,642	21	122	75
	5.22	1944 & 1947	26,000	00	25,512	84	213	70

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value		Book Value		Accrued Interest	
			$	c.	$	c.	$	c.
Galt:	5.622	Oct. 30, 1940	42,000	00	39,308	31	321	04
	5.65	Dec. 6, 1961	19,284	69	18,458	31	70	50
	5.30	1934–1943	83,374	04	84,167	55	3,844	33
	5.20	Dec. 1, 1962	68,400	36	71,456	15	319	50
	5.20	Dec. 1, 1962	14,135	90	15,819	95	72	03
	4.95	Dec. 15, 1964	14,097	18	15,319	52	36	10
	5.05	July 2, 1965	35,254	75	37,743	31	....	
Glencoe:	6.75	1934–1940	8,559	87	8,188	53	353	40
	5.33	May 15, 1959	70,000	00	71,651	70	632	90
Grey, County	5.25	Aug. 1, 1945	75,000	00	73,418	28	1,571	92
Guelph:	6.	1940–1944	13,287	11	12,844	30	368	39
	5.183	June 30, 1942	75,000	00	74,065	86	....	
	5.20	June 30, 1938	20,000	00	19,855	58	....	
	4.914	June 30, 1942	11,000	00	11,064	79	....	
	5.152	Dec. 31, 1953	46,441	00	39,810	09	....	
Hamilton:	5.875	1935–1937	8,740	84	8,564	17	37	11
	5.375	Feb. 1, 1939	4,726	76	4,754	57	108	35
	6.	1934–1940	77,651.	69	77,651	69	765	85
	5.90	1934–1941	164,629	81	165,246	94	3,301	62
	5.45	1937 & 1938	40,000	00	40,869	26	604	93
	5.50	Feb. 1, 1936	7,000	00	7,081	03	176	05
	4.95	1934–1942	145,000	00	148,598	76	3,321	10
	5.749	1941–1945	44 000	00	41,559	58	554	52
	5.714	1938–1945	190,000	00	175,778	77	3,584	00
	5.554	1938–1945	77,000	00	71,667	72	1,442	96
	5.	1940–1945	97,000	00	93,356	96	1,088	25
	5.	1940–1947	102,000	00	98,417	12	1,521	65
	5.064	1947–1949	54,000	00	53,648	28	673	15
	5.064	1947–1949	104,000	00	103,322	79	854	80
	5.06	1947 & 1949	2,000	00	1,987	18	....	
	5.06	1947–1949	6,000	00	5,961	56	24	65
	5.068	1946–1948	19,000	00	17,950	00	208	50
	5.067	1946–1949	42,000	00	39,671	11	310	70
	5.068	1946–1948	47,000	00	44,413	73	....	
	5.068	1946–1948	55,000	00	51,896	42	1,030	70
	5.068	1946–1948	32,000	00	30,193	19	355	10
	5.068	1946–1948	9,000	00	8,492	59	66	60
	5.067	1946–1948	16,000	00	15,097	29	59	20
	5.068	1946–1949	82,000	00	77,367	53	1,536	70
	5.067	1946–1949	51,000	00	48,117	79	760	80
	5.048	Jan. 2, 1945	43,000	00	42,821	86	....	
	5.048	Feb. 1, 1945	26,000	00	25,892	27	541	40
	5.048	April 1, 1945	16,000	00	15,933	71	199	45
	5.048	June 1, 1945	55,000	00	54,772	15	218	50
	5.048	May 1, 1945	32,000	00	31,867	42	263	00
	6.012	1943–1952	170,000	00	169,800	64	4,275	60
	5.55	April 1, 1950	26,000	00	27,253	42	393	20
	5.57	April 1, 1952	17,000	00	17,837	97	257	10
	5.05	Feb. 1, 1945	50,000	00	47,625	46	937	00
	4.95	1959–1963	50,000	00	50,373	83	410	95
	5.20	Jan. 2, 1942	3,000	00	2,961	00	....	
	5.20	April 1, 1945	3,000	00	2,948	40	37	40
	5.20	July 3, 1942	5,000	00	4,762	00	....	
	5.20	Dec. 1, 1942	4,000	00	3,800	80	15	30
	5.20	Feb. 1, 1944	4,000	00	3,775	60	74	95
	5.185	1950 & 1951	28,000	00	27,412	41	230	15
	5.186	1952 & 1953	100,000	00	97,784	79	821	90
	5.18	April 1, 1951	22,000	00	21,535	11	274	25
Hanover	5.30	1945–1959	65,703	97	67,152	38	1,197	95
Hastings	5.50	1934–1935	2,984	08	2,962	90	12	65
Hawkesbury	7.25	1933–1940	51,432	34	48,982	22	2,830	50

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value $ c.	Book Value $ c.	Accrued Interest $ c.
Hydro Electric Power Commission (guaranteed by Province of Ontario):	5.004	Jan. 2, 1970	95,000 00	91,046 67	....
	4.70	June 24, 1941	40,000 00	43,255 87	4 60
	5.35	Jan. 1, 1970	25,000 00	22,614 50	....
Kingston:	6.10	1935–1948	4,600 00	4,575 34	46 12
	6.125	1934–1945	40,400 00	40,112 28	....
	5.30	Jan. 1, 1942	35,000 00	35,449 68	....
Kingsville	6.625	1934–1941	33,155 59	32,993 55	1,251 70
Kitchener:	5.25	1943–1951	47,682 18	48,817 06	222 73
	5.25	1943–1952	28,490 33	29,179 10	390 65
	5.75	1934–1946	819 47	807 59	9 50
	4.99	1942–1945	24,849 50	24,871 56	364 20
Leaside	6.	1933–1949	96,000 00	92,620 30	2,647 25
Lincoln, County	4.95	Sept. 11, 1943	90,000 00	90,351 27	1,368 50
Lindsay	5.40	Jan. 1, 1935	14,681 07	14,696 42	....
Listowel	5.875	1934–1947	13,195 08	12,890 02	302 20
London:	5.523	Aug. 3, 1939	24,000 00	22,156 04	397 15
	5.50	1937 & 1938	11,000 00	10,590 34	....
	6.538	June 30, 1942	25,000 00	21,314 34	3 05
	6.27	1935–1939	114,425 61	113,579 73	18 75
	5.85	Jan. 1, 1944	50,000 00	46,826 40	....
	5.35	1940 & 1941	15,000 00	15,139 81	2 26
	5.35	1937–1941	75,000 00	75,553 06	11 30
	5.25	1934–1940	103,623 46	104,478 56	1,904 96
	5.23	Aug. 3, 1939	20,000 00	18,748 70	330 96
	4.955	June 30, 1945	25,000 00	25,102 83	3 42
	4.955	1938–1942	45,000 00	45,125 58	....
	4.955	1939–1945	26,000 00	26,075 57	....
	4.981	June 30, 1942	25,000 00	23,745 65	....
	5.	1944–1949	236,000 00	236,000 00	....
	4.819	1945–1950	299,000 00	304,656 69	3,727 30
	4.819	1946–1950	58,000 00	59,060 49	....
Middlesex, County	5.10	1941–1945	79,000 00	78,415 20	1,309 45
Midland (guaranteed by County of Simcoe):	4.97	1940–1947	14,339 86	14,957 36	263 63
	4.97	1940–1944	10,720 05	11,126 80	98 52
	4.964	1940–1947	36,422 68	36,516 27	533 85
	4.971	1940–1957	47,160 21	47,311 05	1,285 60
Mimico:	5.636	1935–1960	62,940 45	62,103 45	....
	5.68	1935–1950	36,525 33	34,673 72	....
	5.05	1933–1961	46,134 66	48,226 05	2,127 05
Mount Forest	5.20	1945–1948	26,183 59	25,683 65	46 60
Napanee	4.80	1941–1943	14,623 28	14,825 76	244 35
Niagara Falls:	6.60	1938–1945	50,548 31	45,739 47	1,904 19
	6.50	1934–1941	59,553 78	58,392 83	1,801 30
	5.318	1940–1953	54,098 50	55,053 80	1,744 48
	5.32	1938–1952	16,139 50	15,694 08	73 89
North Bay:	6.	1938–1942	1,788 66	1,706 56	50 70
	5.70	1937–1942	76,276 50	77,501 41	3,071 92
	4.75	1937–1947	42,775 84	43,534 92	52 75
	4.75	1937–1943	17,558 14	17,299 28	530 35
	5.10	1939–1948	152,370 42	157,378 25	....
Northumberland & Durham, United Counties of	5.394	1934–1948	52,547 39	51,393 70	115 15
North Toronto (City of Toronto)	6.05	1935–1942	20,246 58	18,892 48	64 89
North York, Township:	4.97	1940 & 1941	8,500 00	8,768 27	372 72
	4.97	1940–1944	17,866 71	18,544 52	576 10
	4.97	1940–1943	25,811 14	26,745 01	357 80
	4.95	1943–1957	36,885 12	39,229 21	1,700 75
	4.75	1940–1948	47,687 13	48,660 85	1,998 90
	4.85	1940–1958	24,469 63	26,207 01	1,128 25

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Oakville	5.50	1934–1935	1,182 56	1,190 86	17 70
Orillia (guaranteed by County of Simcoe)	4.96	1941–1954	17,156 14	17,233 35	216 20
Oshawa:	6.75	1934–1935	14,864 61	14,709 98	112 40
	6.40	1945–1951	45,133 48	43,448 04	2,270 24
	5.40	1934–1936	16,207 92	16,247 88	....
	5.375	June 1, 1938	6,068 02	5,970 07	177 88
	5.322	1939–1943	78,000 00	76,385 54	2,286 58
	5.648	1945–1949	100,000 00	98,571 79	....
Ottawa:	6.12	July 1, 1939	10,800 00	9,731 26	....
	4.95	July 1, 1951	15,000 00	16,830 52	....
	5.514	1951 & 1961	226,000 00	225,567 82	....
	5.54	July 1, 1961	114,000 00	113,357 92	....
	5.523	July 1, 1961	46,000 00	45,850 77	....
Owen Sound:	5.20	Feb. 1, 1943	25,000 00	25,555 66	576 37
	4.95	April 1, 1945	50,000 00	50,223 59	623 30
	5.10	Feb. 1, 1945	50,000 00	49,568 74	1,041 10
Oxford	6.25	1934–1936	7,651 49	7,476 17	222 20
Parry Sound:	6.50	1934–1944	19,223 80	18,927 76	480 30
	7.125	1937–1950	50,235 30	45,984 41	1,263 44
Pembroke	5.	1946–1954	75,025 53	75,025 53	2,199 36
Perth:	5.50	Dec. 20, 1934	436 24	436 31	65
	5.50	1934–1943	2,098 72	2,048 68	8 60
	5.50	1934–1944	273 45	266 46	1 10
	5.50	Dec. 1, 1934	49 44	49 22	20
	4.95	1940–1947	52,000 00	52,209 53	1,267 95
	4.79	1940–1948	91,000 00	92,626 81	2,667 65
	5.10	1945–1950	21,000 00	20,795 08	701 90
Peterborough:	6.10	Dec. 31, 1946	15,000 00	13,531 93	....
	6.205	June 30, 1950	155,000 00	151,750 15	25 48
	6.25	Dec. 31, 1940	50,000 00	50,000 00	....
	5.85	June 30, 1951	50,000 00	42,668 00	....
Port Arthur:	6.595	June 1, 1940	50,000 00	48,443 43	246 60
	5.20	June 1, 1959	50,000 00	48,597 35	205 50
	6.384	June 1, 1948	53,000 00	48,610 40	239 60
Port Arthur (guaranteeing General Hospital):	5.125	Nov. 1, 1955	100,000 00	104,911 10	904 10
	5.15	Oct. 1, 1954	40,000 00	41,783 93	548 50
Preston	6.50	1934–1937	5,119 15	5,029 47	246 05
Renfrew:	5.75	1934 & 1935	2,297 76	2,310 75	12 85
	5.85	1934–1947	6,960 74	7,022 78	308 95
	4.95	1947–1958	55,034 42	55,382 50	2,080 70
Richmond Hill	5.50	1934–1944	5,568 15	5,568 15	255 90
St. Catharines:	5.385	Dec. 29, 1945	50,000 00	48,317 92	13 70
	6.312	1934–1940	17,500 00	17,603 37	....
	6.321	1934–1940	20,300 00	20,256 01	....
	5.45	1934–1942	24,750 00	25,268 76	248 18
St. Marys:	5.50	Oct. 31, 1943	4,870 30	4,693 74	....
	5.50	Jan. 1, 1944	2,500 00	2,405 60	....
St. Thomas:	6.38	1937–1951	129,562 40	125,706 96	3,258 56
	6.38	1938 & 1939	3,387 15	3,242 43	3 57
	5.40	1934–1937	70,000 00	70,799 78	483 29
	5.15	1949–1953	25,000 00	24,569 07	58 22
	5.20	1934–1949	39,000 00	38,447 35	90 82
Sandwich:	5.625	1933–1935	2,070 76	2,085 28	115 65
	6.625	1932–1943	18,392 05	17,758 63	692 35
	6.549	1938–1940	6,774 32	6,547 79	18 92
	6.546	1932–1949	41,737 53	40,112 96	624 35
	5.484	1944–1955	78,106 11	78,248 85	2,165 56
	5.579	1944–1947	11,000 00	10,911 68	51 40
	5.25	1944–1958	313,879 39	323,318 64	15,797 10
	5.50	1945–1960	126,694 20	126,694 20	....

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Sandwich West, Township	5.05	1938–1948	80,272 18	85,913 94	4,037 80
Sandwich, Windsor & Amherstburg Railway Company (Guaranteed by Province of Ontario)	5.777	June 1, 1943	49,000 00	44,475 92	181 25
Sarnia:	6.50	1934–1939	5,142 04	5,006 87	....
	6.60	1934 & 1935	13,000 00	12,798 61	....
	5.217	1942–1947	62,914 68	61,739 85	792 90
Sault Ste. Marie:	5.50	Mar. 25, 1949	24,771 50	26,048 88	394 97
	6.405	April 1, 1950	45,000 00	40,887 94	623 84
	6.555	Mar. 1, 1935	100,000 00	99,219 10	2,005 48
	5.096	Jan. 20, 1945	6,000 00	6,208 52	147 35
Scarborough, Township:	4.70	1940–1943	25,000 00	25,515 23	54 80
	5.35	1942–1958	75,474 03	72,308 64	165 40
	6.	1934–1940	25,689 23	25,341 22	56 30
Simcoe	5.50	1934–1945	6,680 32	6,832 03	16 45
Smith's Falls:	5.50	1934–1944	4,553 60	4,553 60	209 30
	5.50	1934–1946	12,219 65	12,584 50	490 15
	5.50	1934–1936	530 17	535 22	15 95
	5.775	1934–1937	1,699 46	1,685 93	62 50
	5.776	1934–1947	10,283 26	10,105 74	378 10
	5.022	1940–1945	64,306 49	64,203 82	2,158 21
	5.	1944–1946	54,000 00	54,000 00	1,812 33
Stratford:	5.50	Jan. 1, 1945	25,000 00	23,988 09	....
	5.50	Jan. 1, 1945	15,000 00	14,393 96	....
	5.50	Jan. 1, 1945	10,000 00	9,595 24	....
	5.625	Jan. 1, 1945	13,000 00	12,340 86	....
	6.25	Jan. 1, 1951	40,000 00	38,955 43	....
	5.40	Jan. 1, 1942	124,000 00	128,781 36	....
	5.40	Jan. 1, 1942	50,000 00	50,320 15	....
	5.401	1937 & 1952	83,000 00	83,330 80	....
	4.95	June 15, 1940	7,000 00	7,020 36	191 78
	4.95	June 15, 1955	30,000 00	30,201 43	821 92
	4.915	Jan. 1, 1945	2,000 00	2,014 17	....
Sudbury:	7.	1934–1937	18,321 43	17,509 02	765 45
	5.50	1940–1949	49,943 48	47,852 80	136 80
	5.05	1945–1948	66,235 66	65,908 09	825 65
Thorold	5.134	Aug. 15, 1958	3,000 00	2,944 40	62 90
Tillsonburg:	5.50	Mar. 20, 1945	975 00	975 00	42 16
	5.50	1934–1944	835 20	835 20	36 00
	5.50	1934–1935	757 06	757 06	32 60
	5.50	1934–1935	378 52	378 52	16 30
Toronto:	6.049	1937 & 1939	16,000 00	15,675 10	294 14
	6.049	April 1, 1938	4,000 00	3,915 59	55 45
	6.049	1937 & 1938	7,000 00	6,871 17	....
	6.08	July 1, 1945	7,000 00	6,371 88	....
	6.08	July 1, 1948	4,000 00	3,398 75	....
	6.021	Jan. 1, 1955	19,000 00	15,582 25	....
	6.	1934–1937	25,000 00	24,740 80	342 80
	6.434	1941–1948	269,000 00	259,583 33	4,068 27
	6.436	1940–1948	231,000 00	223,340 17	2,316 40
	6.24	1934–1939	49,000 00	48,755 52	982 70
	6.20	1935–1940	50,000 00	49,701 92	1,002 74
	6.25	June 1, 1951	100,000 00	97,359 31	509 59
	6.40	June 1, 1948	59,000 00	56,798 65	300 66
	6.35	1943 & 1944	147,000 00	143,288 46	749 10
	6.35	1942 & 1944	53,000 00	51,753 50	270 08
	6.	1937–1940	44,000 00	43,055 25	....
	6.	1936–1949	61,000 00	61,000 00	310 85
	6.	1937–1947	17,000 00	16,402 72	....
	6.	1942–1951	52,000 00	52,000 00	786 41
	6.	1935–1940	50,000 00	49,074 81	....
	6.	1937–1941	28,000 00	28,000 00	....
	6.	1937–1939	9,000 00	9,000 00	45 86

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Toronto:	6.	1937–1939	7,000 00	7,000 00	105 86
	6.	1937–1939	10,000 00	10,000 00	....
	6.	1937–1939	14,000 00	13,728 32	....
	6.	1938 & 1939	9,000 00	8,806 51	....
	5.40	1939–1941	150,000 00	150,822 67	2,757 55
	5.35	Mar. 1, 1951	83,000 00	89,081 77	1,664 55
	5.35	Jan. 1, 1951	15,000 00	16,059 99	....
	5.20	1940–1942	58,000 00	57,322 38	484 66
	5.20	1940–1951	41,000 00	42,002 75	....
	5.25	April 1, 1951	50,000 00	48,577 67	630 14
	5.02	1940–1951	21,000 00	22,624 39	107 01
	5.02	Mar. 1, 1940	1,000 00	1,053 77	20 05
	4.925	July 1, 1950	20,000 00	20,168 39	....
	4.925	April 1, 1950	25,000 00	25,210 46	315 07
	5.265	July 1, 1944	35,000 00	32,854 39	....
	4.95	June 1, 1946	7,000 00	6,708 98	25 90
	4.95	1943–1945	40,000 00	38,564 07	300 82
	4.95	1943–1948	33,000 00	31,747 61	....
	4.95	1945–1951	106,000 00	106,521 94	....
	6.106	1945–1952	27,000 00	25,523 48	374 30
	4.90	June 1, 1945	18,000 00	19,725 05	91 75
	4.90	Mar. 1, 1949	2,000 00	2,129 20	36 75
	4.75	June 1, 1948	2,000 00	2,259 21	10 20
	4.77	July 1, 1948	3,000 00	3,384 02	....
	4.75	1950 & 1951	84,000 00	96,176 74	....
	4.75	June 1, 1951	75,000 00	86,057 25	382 20
	4.82	1942–1950	30,000 00	33,210 26	152 90
	4.82	Oct. 1, 1949	25,000 00	28,264 19	378 10
	5.05	1955–1959	150,000 00	148,971 42	616 40
	5.30	1946–1958	53,000 00	54,064 66	734 75
	5.65	1953 & 1957	55,000 00	53,986 94	762 50
	5.70	1942–1947	60,000 00	59,083 07	831 80
	5.618	1958–1962	125,000 00	122,968 13	1,732 85
	5.70	1943 & 1944	17,000 00	16,741 94	235 65
	5.40	1955 & 1956	100,000 00	101,278 18	1,386 30
	5.27	1948 & 1950	89,000 00	91,109 86	1,233 80
	5.35	1945 & 1946	71,000 00	75,103 19	1,073 75
	5.35	June 1, 1946	25,000 00	26,467 45	123 30
	5.013	1945 & 1956	44,000 00	43,948 00	....
	5.10	April 1, 1952	5,000 00	5,237 66	68 55
	5.08	1950 & 1951	15,000 00	15,715 91	205 70
	5.05	April 1, 1951	11,000 00	11,570 68	150 85
	5.05	1946–1951	20,000 00	22,037 61	....
	5.241	Aug. 1951	28,000 00	25,618 43	314 15
Toronto Harbour Commission (guaranteed by City of Toronto)	5.102	Sept. 1, 1953	14,000 00	12,960 80	208 85
Toronto Housing Company (guaranteed by City of Toronto)	5.10	Oct. 1, 1953	120,000 00	118,521 17	1,496 00
Toronto Junction (City of Toronto)	6.187	Jan. 2, 1943	33,000 00	29,239 57	....
Toronto, Township	4.95	1941–1952	18,104 29	19,114 86	627 42
Trenton	5.	1942 & 1943	25,000 00	25,933 93	1,103 76
Walkerville:	6.597	1933–1942	21,878 49	21,363 81	57 60
	6.271	1942–1948	17,531 70	16,395 80	47 54
	5.	1949–1951	99,038 43	110,213 59	276 75
	4.70	1942–1947	25,511 95	26,150 35	59 40
Walkerville–East Windsor Water Commission	5.15	1947–1959	291,476 32	303,870 80	....
Welland, City	5.439	April 1, 1939	42,000 00	43,098 64	635 18
Welland, County	5.38	Dec. 15, 1945	10,000 00	9,670 52	23 28
Weston	5.	1949–1952	24,949 65	27,819 99	65 60

TABLE 14—Continued

Municipal Debentures—Continued

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
West Gwillimbury, (guaranteed by County of Simcoe)	5.459	1942–1956	36,107 36	36,261 16	....
Wheatley, Village	5.25	1951–1960	22,892 29	23,641 35	734 75
Whitby:	5.375	1934–1946	9,698 14	9,770 38	84 75
	5.375	1934–1946	2,904 32	2,929 68	27 10
	5.38	1934–1946	4,391 17	4,432 19	38 40
Windsor:	5.563	1932–1935	11,665 41	11,654 25	28 15
	6.413	1942–1950	200,257 35	192,643 60	1,020 30
	6.05	1938–1940	32,977 61	32,877 74	585 45
	6.10	Sept. 15, 1941	12,337 43	12,252 21	219 01
	6.05	June 1, 1940	13,000 00	12,961 26	66 25
	5.32	1946–1952	110,000 00	112,106 51	1,525 00
	5.101	June 1, 1951	24,000 00	26,564 79	122 30
	4.95	1944–1950	163,000 00	155,283 31	602 90
	4.95	1943–1949	37,000 49	37,186 00	152 05
Woodstock:	5.625	Dec. 31, 1936	7,045 32	6,831 66	....
	5.625	Nov. 1, 1938	10,000 00	9,535 49	....
	5.625	Nov. 30, 1937	6,000 00	5,768 66	....
York, Township:	4.958	1941–1946	100,000 00	100,323 97	424 66
	5.572	1941–1951	102,407 13	106,032 52	2,053 75
	5.408	1949–1956	225,000 00	214,373 83	4,715 77
	4.979	1942–1946	195,000 00	195,338 09	4,087 00
	5.612	1945–1956	110,295 98	102,803 14	1,828 15
	5.	1945–1955	22,000 00	22,000 00	93 45
	4.85	Feb. 1, 1952	25,000 00	25,453 41	524 00
	4.85	1941–1949	20,731 26	21,923 18	....
	4.93	1941–1952	8,679 27	9,565 03	174 05
	4.93	1941–1952	27,659 28	30,543 18	695 65
	5.08	1945–1958	74,000 00	73,260 36	922 45
York, Township (guaranteed by County of York):	5.39	1951–1956	93,000 00	88,487 73	394 95
	4.95	1946–1957	21,000 00	21,125 40	350 95
			18,110,110 14	17,966,038 95	228,800 09

TABLE 14—Continued

Other Permanent Investments

Security	Yield Rate (Per Cent.)	Term	Par Value		Book Value		Accrued Interest	
			$	c.	$	c.	$	c.
Canadian National Railway Company (guaranteed by Dominion of Canada):	4.64	Feb. 1, 1954	100,000	00	104,734	40	2,095	90
	4.65	Feb. 1, 1954	50,000	00	52,296	76	1,047	95
	5.312	Feb. 1, 1954	80,000	00	76,896	49	1,676	70
	5.35	Feb. 1, 1954	36,000	00	34,442	80	754	50
	5.23	Feb. 1, 1954	121,000	00	117,552	93	2,536	05
	5.19	Feb. 1, 1954	247,000	00	241,106	97	5,176	90
	4.69	Feb. 1, 1954	50,000	00	52,027	11	1,047	95
	4.68	Feb. 1, 1954	23,000	00	23,950	36	482	05
	4.65	Feb. 1, 1954	50,000	00	52,296	76	1,047	95
	4.675	Feb. 1, 1954	50,000	00	52,123	93	1,047	95
	4.675	Feb. 1, 1954	60,000	00	62,548	71	1,257	53
	4.666	Feb. 1, 1954	25,000	00	26,093	74	524	00
	4.67	Feb. 1, 1954	90,000	00	93,838	77	1,873	95
	5.19	Feb. 1, 1954	463,000	00	451,943	82	9,640	60
	6.077	Feb. 1, 1954	40,000	00	35,608	09	832	90
	5.177	July 1, 1969	191,000	00	185,529	38	....	
	5.032	Feb. 1, 1970	200,000	00	198,933	76	4,164	45
	5.015	Feb. 1, 1970	40,000	00	39,903	10	832	90
Dominion of Canada	5.859	Nov. 15, 1941	30,000	00	28,383	74	189	05
Ontario, Province of:	5.88	Feb. 1, 1941	50,000	00	50,368	72	1,257	53
	4.80	Dec.. 1, 1942	115,000	00	120,824	24	537	20
	5.75	Dec. 1, 1942	10,000	00	9,828	96	45	20
	5	Sept. 15, 1943	50,000	00	53,898	39	879	45
	4.90	Sept. 15, 1943	185,000	00	200,937	19	3,253	95
	4.85	Sept. 15, 1943	9,000	00	9,812	80	158	30
	4.85	Sept. 15, 1943	57,500	00	62,690	87	1,011	35
	4.85	Sept. 15, 1943	30,000	00	32,718	20	527	65
	4.85	Sept. 15, 1943	30,000	00	32,709	25	527	65
	4.75	Sept. 15, 1943	7,000	00	7,689	72	123	10
	6.10	July 1, 1946	250,000	00	237,012	60	....	
	5.99	July 1, 1946	100,000	00	95,734	44	....	
	5.625	July 1, 1946	115,000	00	113,721	89	....	
	5.371	Dec. 1, 1947	13,000	00	11,895	39	49	70
	5.46	Feb. 1, 1947	226,000	00	226,840	73	5,210	45
	6.01	Feb. 1, 1947	125,000	00	119,155	64	2,881	85
	5.40	Feb. 1, 1947	145,000	00	146,416	83	3,342	95
	5.43	Feb. 1, 1947	116,000	00	116,783	08	2,674	40
	5.875	Feb. 1, 1947	10,000	00	9,653	80	230	55
	5.178	Oct. 15, 1948	250,000	00	245,404	76	263	70
	4.875	Oct. 15, 1948	50,000	00	50,662	00	520	55
	4.875	Oct. 15, 1948	60,000	00	60,791	46	624	66
	4.871	Oct. 15, 1948	25,000	00	25,340	16	260	27
	4.875	Oct. 15, 1948	50,000	00	50,659	81	520	55
	5.458	Dec. 1, 1949	300,000	00	269,575	35	1,146	60
	5.449	Dec. 1, 1950	700,000	00	626,954	91	2,675	30
	4.86	Jan. 15, 1956	500,000	00	475,441	12	10,417	80
	5.016	May 1, 1959	250,000	00	249,420	05	2,054	80
Ontario, Province of (guaranteeing The University of Western Ontario)	5.672	1942-1946	54,000	00	48,880	90	....	
Ontario, Province of (guaranteeing Temiskaming & Northern Ontario Railway)	5.20	Feb. 1, 1959	145,000	00	120,482	46	2,431	25
			5,973,500	00	5,812,517	34	79,856	04
Total Permanent Investments, Schedule 1.........			24,083,610	14	23,778,556	29	308,656	13

TABLE 14—Continued

SCHEDULE 2 FUNDS

Security	Yield Rate (Per Cent.)	Term	Par Value	Book Value	Accrued Interest
			$ c.	$ c.	$ c.
Barton, Township	5.354	July 14, 1952	63,000 00	64,091 36	1,604 34
Belleville:	5.669	1943–1945	3,450 26	3,269 52	....
	5.613	1943–1950	8,000 00	7,543 24	17 55
	5.704	1940–1946	10,488 47	9,948 79	219 80
Brantford	5.42	Dec. 31, 1949	15,000 00	12,742 19	....
Chippawa, Town (guaranteed by County of Welland)	5.525	1941–1944	22,578 30	22,535 70	520 52
Cornwall	5.535	1941–1943	10,248 45	10,219 50	284 13
Etobicoke, Township:	5.485	1941–1955	24,867 79	23,667 05	415 60
	5.07	1941–1956	32,574 89	32,368 92	1,227 13
	5.067	1942–1956	58,470 29	61,108 73	2,422 90
	5.55	1948–1955	43,000 00	40,428 42	453 55
Galt	5.34	Dec. 15, 1965	19,460 45	18,448 20	42 65
Hamilton:	5.697	1942–1946	152,000 00	137,743 31	2,867 18
	5.54	1942–1946	134,000 00	122,999 21	512 15
	5.444	1942–1946	35,000 00	33,753 10	292 47
Hydro Electric Power Commission (Guaranteed by Province of Ontario)	5.45	June 24, 1941	15,000 00	15,499 09	17 25
Kingston	5.453	July 1, 1955	120,000 00	113,162 43	....
Kitchener	5.475	1944–1947	10,418 06	10,916 27	104 45
London:	5.444	Dec. 30, 1954	411,000 00	388,344 07	....
	5.439	1940–1956	280,000 00	269,934 07	76 70
	5.26	1940–1955	101,000 00	98,828 70	....
North Bay	5.799	1940–1943	33,000 00	32,332 70	1,516 65
Ontario, Province of:	5.528	Oct. 1, 1942	31,000 00	29,858 27	390 68
	5.376	April 1, 1952	19,000 00	18,172 12	239 45
	4.875	Oct. 15, 1948	50,000 00	50,661 14	520 55
Ottawa	5.574	1941–1946	36,000 00	34,517 32	....
Owen Sound	4.95	April 1, 1945	100,000 00	100,441 63	1,246 60
Peterborough	5.514	Dec. 31, 1945	20,000 00	19,111 18	....
Renfrew	5.40	1949–1953	50,234 63	50,812 03	461 73
Stamford, Township	5.458	1941–1954	246,628 19	247,690 77	408 80
Stratford:	5.201	July 1, 1954	82,000 00	83,013 85	2,190 86
	5.611	1940–1956	122,613 19	116,561 48	3,359 25
Thorold	5.50	1940–1959	49,546 82	46,811 86	617 60
Toronto:	6.325	June 1, 1940	4,000 00	3,937 20	20 38
	6.325	June 1, 1942	21,000 00	20,555 93	107 01
	6.254	1937–1940	130,000 00	128,745 73	662 55
	5.557	Dec. 1, 1940	100,000 00	102,540 85	509 59
	5.25	1940–1943	42,000 00	43,887 00	214 03
	5.25	1950 & 1951	50,000 00	48,590 80	630 14
	5.287	1948–1954	172,000 00	156,754 50	1,293 53
	5.269	1948–1954	154,000 00	140,553 15	588 57
	5.572	1947–1954	229,000 00	200,783 26	3,444 40
	5.458	Jan. 1, 1949	5,000 00	4,503 18	....
	5.455	July 1, 1950	4,000 00	3,806 47	....
Victoria, County	5.50	1951–1959	17,954 20	16,796 99	39 35
Waterloo, Town	5.68	1941–1947	19,195 72	18,930 47	885 07
York, Township	5.74	1944–1961	214,197 93	198,096 21	3,550 40
Total Permanent Investments, Schedule 2			**3,571,927 64**	**3,416,017 96**	**33,975 56**

SHORT DATE DEPOSITS, SCHEDULE 1

Short Date Debentures:	
Canada Trust Co. (Huron & Erie Mortgage Corporation), 5¼% withdrawable on ten days' notice	$100,000 00
Huron & Erie Mortgage Corporation 5¼% withdrawable Jan. 10, 1934	125,000 00
Total Short Date Deposits, Schedule 1	$225,000 00

CHAPTER V

1932 OPERATIONS

This chapter deals with the year 1932, containing information which was not available when the report for that year was made.

It gives the final financial statement for Schedule 1 industries for the year, estimates of the adjustments of assessments and of the outstanding compensation and medical aid having to be used in the provisional statement given in Table 1 of the 1932 report; and it gives statistical information as to the accidents which happened during 1932, their causes, the nature of the injuries suffered, the number, time loss, total and average cost of the different classes of cases, and the age, wage, nationality, and marital condition of the injured workmen.

This information is contained in Tables 15 to 27.

Final Financial Statement, Schedule 1, 1932

Table 15 gives the final financial statement for Schedule 1 industries for 1932, provisional figures for which were given in Table 1 of the 1932 report. It shows the income and credits and the expenditure and charges and the balance for each class of industry; also the actual assessments and accident cost and other items of income and expenditure for each class, and the assessments and accident cost for each group of industry within the class. The list of industries included in each class and group will be found in the Board's rate book, the list of industries in the different classes is also printed with the Act, and their general nature is indicated at the bottom of Table 1 of this report.

The net income and credits for all the classes for the year were $3,586,125.26, and the net expenditures and charges, $3,614,142.61, leaving a deficit for the year of $28,017.35. Adding the surplus forward from prior years, $1,875,275.90, leaves a net actual surplus of $1,847,258.55, as compared with a provisional or estimated surplus of $1,607,908.14, the disparity being largely due to claims for accidents occurring in 1932 and prior years not being finally disposed of during 1933.

Assessments and Accident Cost

The assessments and accident cost (the latter comprising compensation and medical aid and payments on account of rehabilitation) in Schedule 1 for each year since the commencement of the Act, and the totals to the end of 1932, are as follows:

Year	Assessment	Accident Cost
1915	$1,831,537 52	$1,091,020 43
1916	2,361,463 20	1,880,004 37
1917	2,662,383 29	2,639,560 56
1918	3,303,575 83	3,214,427 57
1919	3,840,949 07	4,474,847 38
1920	5,579,333 45	5,041,947 30
1921	4,594,452 37	4,277,034 67
1922	3,984,594 64	4,323,801 07
1923	3,771,321 09	4,977,331 82
1924	4,524,700 86	4,746,314 60
1925	4,390,854 75	4,438,802 13
1926	5,167,126 64	4,711,970 90
1927	5,465,763 17	5,082,073 61
1928	6,739,696 80	6,083,772 14
1929	7,505,431 10	6,861,274 51
1930	6,396,105 73	5,925,502 17
1931	4,608,677 15	4,472,209 18
1932	3,292,309 25	3,177,386 47
Totals	$80,020,275 91	$77,419,280 88

Pay Roll and Rates of Assessment

As assessments are in the form of a percentage of pay roll, the average rate paid by employers in Schedule 1 can be determined by dividing the total assessments for the year by the total pay roll. The following table shows the total amount of pay roll and the total assessments and the average rate for $100 pay roll for each year:

Year	Total Pay Roll	Total Assessments	Average Rate per $100
1915	$147,603,000	$1,831,537 52	$1 24
1916	220,840,000	2,361,463 20	1 07
1917	286,903,000	2,662,383 29	93
1918	310,450,000	3,303,575 83	1 06
1919	325,226,000	3,840,949 07	1 18
1920	464,589,000	5,579,333 45	1 20
1921	355,259,000	4,594,452 37	1 29
1922	391,888,000	3,984,594 64	1 02
1923	434,163,000	3,771,321 09	87
1924	386,318,000	4,524,700 86	1 17
1925	390,652,000	4,390,854 75	1 04
1926	424,926,000	5,167,126 64	1 22
1927	455,016,000	5,465,763 17	1 20
1928	504,102,000	6,739,696 80	1 34
1929	559,429,000	7,505,431 10	1 34
1930	472,742,000	6,396,105 73	1 35
1931	389,740,000	4,608,677 15	1 18
1932	317,605,000	3,292,309 25	1 04

Final Accident Figures, 1932

Table 16 shows the number of accidents happening in 1932 (in all industries under the Act) for which payment of compensation or medical aid was made. The total number was 34,758, of which 167 were death cases, 1,805 cases involving some degree of permanent disability, 15,466 temporary disability cases, and 17,320 cases which involved medical aid only. Schedule 2 cases involving medical aid only are not included as in these cases medical aid is furnished directly by the employer.

The complete figures for each year since the commencement of the Act are as follows:

Year	Medical Aid Only	Temporary Disability	Permanent Disability	Death	Totals
1915	*.....	9,311	1,339	296	10,946
1916	*.....	15,993	2,232	373	18,598
1917	†4,267	21,556	2,475	370	28,668
1918	12,822	24,089	2,624	366	39,901
1919	11,769	22,418	2,457	364	37,008
1920	15,566	27,423	2,735	373	46,097
1921	12,141	22,855	2,079	331	37,406
1922	15,913	24,461	2,082	325	42,781
1923	20,125	28,954	2,340	327	51,746
1924	20,811	25,980	2,191	315	49,297
1925	22,444	26,040	2,157	264	50,905
1926	25,330	27,150	2,421	308	55,209
1927	27,852	28,836	2,476	311	59,475
1928	31,688	30,440	2,926	414	65,468
1929	34,582	32,920	3,372	417	71,291
1930	29,189	25,613	3,147	394	58,343
1931	21,970	20,543	2,495	231	45,239
1932	17,32	15,466	1,805	167	34,758
Totals	323,789	430,048	43,353	5,946	803,136

*No medical aid. †Half year only.

Accident Frequencies, Schedule 1

Comparison of accident frequencies can be made by correlating the number of accidents with the total number of full year workers, data for this being available, however, only in Schedule 1. Eliminating accidents in which medical aid only was paid, the number of accidents for each 100 full year workers for the different years are:

Year	Temporary Disability	Permanent Disability	Death	Totals
1915	3.63	.58	.12	4.32
1916	4.99	.79	.10	5.88
1917	5.78	.72	.07	6.57
1918	5.81	.66	.07	6.54
1919	5.81	.68	.07	6.56
1920	6.23	.67	.07	6.97
1921	6.25	.60	.05	6.90
1922	5.82	.52	.06	6.40
1923	6.02	.51	.05	6.58
1924	6.08	.54	.06	6.68
1925	5.94	.51	.05	6.50
1926	5.84	.54	.05	6.43
1927	5.94	.53	.05	6.52
1928	5.85	.58	.07	6.50
1929	5.80	.61	.06	6.47
1930	5.08	.66	.07	5.81
1931	4.28	.56	.04	4.88
1932	3.59	.45	.03	4.07

On the same basis of calculation, the frequency of medical aid only cases has been: 1918, 3.66; 1919, 3.70; 1920, 4.26; 1921, 4.24; 1922, 4.67; 1923, 4.96; 1924, 5.84; 1925, 6.09; 1926, 6.37; 1927, 6.73; 1928, 7.09; 1929, 7.06; 1930, 6.84; 1931, 5.72, and 1932, 5.06.

Statistical Distributions

Tables 17 to 27 give statistical details regarding accidents and workmen, including, where the data is available, Schedule 2 and Crown cases as well as Schedule 1. Considerations of space preclude more extensive tabulations, but the original material is retained and still fuller information is always available concerning the accidents in any of the different classes of industry.

Month of Occurrence

Table 17 gives the month of occurrence of all accidents. The month in which the greatest number occurred during 1932 was February, with 3,272, and the month with the lowest number was December, with 2,376.

Accidents According to Locality

The distribution of accidents according to the county or district in which they occurred is contained in Table 18. York had the highest number, with 9,631, and next in order were: Temiskaming, with 3,549; Wentworth, with 1,985; Essex, with 1,433; and Thunder Bay with 1,392. The greatest number of deaths (38) were in York; there were 18 in Temiskaming; 15 in Welland; 10 in Carleton; and 9 in Wentworth.

Time Loss, Age and Wage

In Table 19 is given the average age and wage of workmen receiving compensation, and the total and average time loss for each class of industry and for each category of disability. The average age for 1932 was 36.05 years. The average wage for 1932 was $19.49, as compared with $21.96 for 1931, and $23.23 for 1930. The total time loss in temporary disability cases was 355,870 days, or an average of 23.01 days, as compared with an average of 22.73 days in 1931, and 22.13 days in 1930.

Compensation and Medical Aid Costs, Schedule 1

Table 20 contains the total and average cost of compensation and medical aid by classes in Schedule 1 for each kind of disability.

The total cost of all accidents was $3,177,386.47, of which $2,449,594.96 was for compensation (including payments for rehabilitation), and $727,791.51 was for medical aid.

Of the $2,449,594.96 compensation cost, $881,290.15 was for temporary disability cases, $1,160,261.56 was for permanent disability cases, and $408,043.25 was for death cases.

The average cost of temporary disability cases was $105.18, of which $73.83 was for compensation and $31.35 was for medical aid, the average in 1931 being $93.59.

The average cost of permanent disability cases was $945.65, of which $254.22 was for temporary disability, $522.39 was for permanent disability, and $169.04 was for medical aid.

The average cost of death cases, where there were dependants, was $5,182.53, and the average cost of all death cases, $4,168.01, of which $10.82 was for temporary disability, $124.58 for burial expenses, $3,986.25 for death benefits, and $46.36 for medical aid.

The average cost of all cases in which compensation was paid was $227.71, of which $181.05 was for compensation and $46.66 was for medical aid, as compared with $236.83 for 1931, and $233.80 for 1930.

The average cost of medical aid in medical aid only cases was $5.73, as compared with $5.79 in 1931, and $5.67 in 1930.

Allegiance of Injured

Table 21 shows the allegiance of injured workers who received compensation, as taken from their own reports. There were 15,067, or over 86 per cent., of British allegiance, and 2,371 of foreign allegiance. Among the aliens the most numerous were: Finns, Poles, Czechs, Italians, and Russians.

Sex and Marital Condition of Injured

Table 22 gives the sex and marital condition of those receiving compensation. There were 17,242 males and 196 females. Of the males, 11,480 were married, and twenty-five of the females. There were 283 widowers and 26 widows.

Duration of Disability

Table 23 shows the week of termination of temporary disability cases. In over 41 per cent. of the cases the disability terminated in from one to two weeks. In five cases the disability lasted for more than a year.

Nature of Injuries

The first part of Table 24 shows the number of various kinds of temporary disability injuries in the different classes of industry, the second part gives an analysis of the permanent disability cases, showing the number of injuries to the several parts of the body and the percentages of impairment of earning capacity, and the third part of the table shows the number and nature of the industrial disease cases.

During 1932 there were 5,027 cuts, lacerations, and punctures: 4,069 bruises, contusions and abrasions; 2,081 fractures; 1,613 sprains, strains, twistings and wrenchings; 1,037 crushes; 563 scalds and burns; 516 injuries to eyes; 99 dislocations; and 197 herniae.

Among the 1,805 permanent disabilities were fourteen permanent total disability cases, and 218 cases exceeded ten per cent. of working capacity.

There were 55 industrial disease cases, of which 4 involved medical aid only, 33 were temporary disability cases, 16 were permanent disability cases, and 2 were death cases. Included in these totals are 33 cases of lead poisoning, 15 cases of silicosis, 3 case each of caisson disease and chrome poisoning, and 1 case of benzol poisoning.

Causes of Accidents

Table 25 gives the prime causes of accidents in 1932. Machinery was responsible for 6,466 out of a total of 34,758, or 18.60 per cent. of all cases, as compared with 18.01 per cent. in 1931, and 20.10 per cent. in 1930.

Blood-Poisoning Cases

The number of compensation cases in which the seriousness of the accident was due to concurrent or subsequent infection rather than to the nature of the wound is shown in Table 26. There were 1,245 such cases, or 7.0 per cent. of cases compensated, including twenty-three cases of permanent disability and six deaths.

Death Cases

The nature of awards, the number, relationship, and residence of the dependants are shown in Table 27.

TABLE 15

FINAL FINANCIAL STATEMENT FOR 1932, SCHEDULE 1

BY CLASSES

Class	Income and Credits	Expenditure and Charges	Balance for 1932	Balance forward Prior Years	Balance at Dec. 31, 1932	Class
	$ c.	$ c.	$ c.	$ c.	$ c.	
1	283,036 59	274,944 56	8,092 03	−188,817 53	−180,725 50	1
2	97,647 54	82,856 62	14,790 92	109,764 74	124,555 66	2
3	48,578 79	58,036 29	−9,457 50	−11,463 13	−20,920 63	3
4	83,445 26	109,349 68	−25,904 42	45,635 93	19,731 51	4
5	486,463 09	**485,744 04	719 05	638,841 18	639,560 23	5
6	139,313 76	126,418 35	12,895 41	162,665 65	175,561 06	6
7	40,921 62	51,571 81	−10,650 19	136,092 95	125,442 76	7
8	82,082 35	70,078 91	12,003 44	30,675 50	42,678 94	8
9	123,992 66	115,669 56	8,323 10	190,343 81	198,666 91	9
10	180,453 38	177,019 08	3,434 30	118,515 23	121,949 53	10
11	134,110 02	144,318 32	−10,208 30	40,663 43	30,455 13	11
12	136,210 61	120,311 78	15,898 83	42,901 27	58,800 10	12
13	73,355 30	44,257 72	29,097 58	−7,847 50	21,250 08	13
14	38,436 29	35,060 35	3,375 94	2,126 23	5,502 17	14
15	216,073 61	250,180 76	−34,107 15	16,733 33	−17,373 82	15
16	76,681 84	67,103 78	9,578 06	46,309 82	55,887 88	16
17	79,422 88	83,124 75	−3,701 87	77,460 15	73,758 28	17
18	82,375 67	99,926 93	−17,551 26	35,755 35	18,204 09	18
19	66,347 92	72,466 53	−6,118 61	28,914 33	22,795 72	19
20	185,707 09	180,956 08	4,751 01	27,978 39	32,729 40	20
21	317,833 71	318,179 20	−345 49	69,183 92	68,838 43	21
22	90,201 93	71,451 75	18,750 18	25,982 65	44,732 83	22
23	130,081 07	143,794 22	−13,713 15	281,347 56	267,634 41	23
24	393,352 28	431,321 54	−37,969 26	−44,487 36	−82,456 62	24
	†3,586,125 26	*3,614,142 61	−28,017 35	1,875,275 90	1,847,258 55	

†Includes $12,857.50 reimbursement from D.P. & N.H.; Disaster Reserve (Class 12), $425.00.
*Includes $5,102.74 for Rehabilitation.
**Includes $21,906.98 for Mine Rescue Work.

TABLE 15—Continued

BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1932
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 010	156,011 66	137,772 24				
" 011	56,353 70	26,419 68				
" 012	66,246 61	72,482 79				
Class 1	278,611 97	236,674 71	4,424 62	38,269 85	−188,817 53	−180,725 50
Group 020	114,752 69	111,709 37				
" 021	25,928 99	14,022 96				
" 022	−54,152 30	−65,733 43				
Class 2	86,529 38	59,998 90	11,118 16	22,857 72	109,764 74	124,555 66
Group 030	30,332 28	30,264 07				
" 031	5,512 09	4,428 22				
" 032	2,397 11	1,076 91				
" 033	9,624 82	16,747 24				
Class 3	47,866 30	52,516 44	712 49	5,519 85	−11,463 13	−20,920 63
Group 040	37,470 74	59,599 25				
" 041	14,093 57	15,956 96				
" 042	7,253 52	4,617 89				
" 043	5,150 48	4,569 88				
" 044	12,283 67	14,598 20				
Class 4	76,251 98	99,342 18	7,193 28	10,007 50	45,635 93	19,731 51
Group 050	9,285 14	7,221 58				
" 051	305,010 38	281,685 72				
" 052	66,294 70	62,274 77				
" 053	13,216 39	33,437 21				
" 055	6,273 88	5,462 47				
" 056	16,877 83	14,121 42				
" 057	7,181 81	13,409 49				
Class 5	424,140 13	417,612 66	62,322 96	68,131 38	638,841 18	639,560 23
Group 060	7,501 98	21,597 17				
" 061	27,218 60	19,526 37				
" 062	7,218 49	1,292 30				
" 063	15,432 91	6,359 52				
" 064	18,231 91	7,672 27				
" 065	29,980 95	35,593 34				
" 066	12,161 42	10,901 11				
Class 6	117,746 26	102,942 08	21,567 50	23,476 27	162,665 65	175,561 06
Group 070	15,679 98	22,652 59				
" 071	13,998 52	25,788 99				
" 072	−7 58	−272 97				
Class 7	29,670 92	48,168 61	11,250 70	3,403 20	136,092 95	125,442 76
Group 080	29,298 79	33,458 34				
" 081	6,356 73	3,348 03				
" 082	29,042 91	10,911 40				
" 083	10,136 42	9,749 24				
Class 8	74,834 85	57,467 01	7,247 50	12,611 90	30,675 50	42,678 94

TABLE 15—Continued

BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1932
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 090	8,468 94	4,318 02				
“ 091	8,489 76	20,796 69				
“ 092	1,748 67	272 34				
“ 093	3,847 78	2,480 80				
“ 094	76,241 84	72,054 12				
“ 095	5,741 96	4,476 44				
Class 9	104,538 95	104,398 41	19,453 71	11,271 15	190,343 81	198,666 91
Group 100	33,694 17	33,749 09				
“ 101	60,477 52	64,064 65				
“ 102	13,642 00	10,252 31				
“ 103	15,914 15	14,523 86				
“ 104	13,490 85	12,968 15				
“ 105	6,496 47	6,669 13				
“ 106	15,459 95	11,842 02				
“ 107	4,224 74	2,043 32				
Class 10	163,399 85	156,112 53	17,053 53	20,906 55	118,515 23	121,949 53
Group 110	24,521 59	15,252 74				
“ 111	90,490 39	96,447 96				
“ 112	6,570 61	5,843 69				
“ 113	3,663 02	15,853 83				
Class 11	125,245 61	133,398 22	8,864 41	10,920 10	40,663 43	30,455 13
Group 120	32,463 06	26,858 11				
“ 121	47,384 70	19,790 86				
“ 122	25,921 54	32,960 68				
“ 123	5,508 05	1,712 81				
“ 124	14,731 33	20,861 82				
Class 12	126,008 68	102,184 28	10,201 93	18,127 50	42,901 27	58,800 10
Group 130	38,255 12	23,668 30				
“ 131	31,287 05	14,608 17				
Class 13	69,542 17	38,276 47	3,813 13	5,981 25	−7,847 50	21,250 08
Group 140	37,058 14	31,372 50				
Class 14	37,058 14	31,372 50	1,378 15	3,687 85	2,126 23	5,502 17
Group 150	61,802 99	75,048 11				
“ 151	57,702 07	52,921 36				
“ 152	13,752 63	9,915 11				
“ 153	27,561 22	37,558 53				
“ 154	14,174 28	10,723 52				
“ 155	30,462 74	36,861 75				
“ 156	2,768 77	2,602 13				
Class 15	208,224 70	225,630 51	7,848 91	24,550 25	16,733 33	−17,373 82
Group 160	27,266 65	20,656 44				
“ 161	6,985 20	4,224 21				
“ 162	7,729 01	15,393 35				
“ 163	10,117 53	4,410 60				
“ 164	17,671 73	12,966 88				
Class 16	69,770 12	57,651 48	6,911 72	9,452 30	46,309 82	55,887 88

TABLE 15—Continued

BY GROUPS

Assessments and Compensation			Other Credits and Charges			
Group and Class	Assessments	Compensation and Medical Aid	Interest, Secs. 8, 105, 112 (3), etc.	Administration Expenses and Safety Assns.	Balance Forward Prior Years	Balance at December 31, 1932
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Group 170	45,403 42	48,957 10				
" 171	18,131 64	20,476 16				
" 172	8,938 79	4,516 07				
Class 17	72,473 85	73,949 33	6,949 03	9,175 42	77,460 15	73,758 28
Group 180	58,426 47	60,423 25				
" 181	19,958 73	28,806 93				
Class 18	78,385 20	89,230 18	3,990 47	10,696 75	35,755 35	18,204 09
Group 190	20,229 49	21,134 29				
" 191	25,249 93	28,385 71				
" 192	9,115 97	11,660 46				
" 193	6,960 60	5,035 07				
Class 19	61,555 99	66,215 53	4,791 93	6,251 00	28,914 33	22,795 72
Group 200	124,375 17	100,267 73				
" 201	51,296 24	68,543 00				
Class 20	175,671 41	168,810 73	10,035 68	12,145 35	27,978 39	32,729 40
Group 210	199,888 21	204,211 45				
" 211	104,177 32	89,330 45				
Class 21	304,065 53	293,541 90	13,768 18	24,637 30	69,183 92	68,838 43
Group 220	83,455 38	57,184 75				
Class 22	83,455 38	57,184 75	6,746 55	14,267 00	25,982 65	44,732 83
Group 230	20,042 53	33,005 38				
" 231	51,842 67	60,594 86				
" 232	33,939 67	38,571 63				
Class 23	105,824 87	132,171 87	24,256 20	11,622 35	281,347 56	267,634 41
Group 240	21,226 92	40,203 47				
" 241	7,919 56	9,704 15				
" 242	21,809 69	18,949 71				
" 243	8,350 95	7,739 04				
" 244	37,787 27	52,490 27				
" 245	39,295 09	25,602 45				
" 246	19,205 22	23,320 26				
" 247	14,895 90	18,599 01				
" 248	195,155 07	169,229 32				
" 249	5,791 34	6,697 51				
Class 24	371,437 01	372,535 19	21,915 27	58,786 35	−44,487 36	−82,456 62
Schedule 1	3,292,309 25	*3,177,386 47	†293,816 01	**436,756 14	1,875,275 90	1,847,258 55

†Includes $12,857.50 reimbursement from D.P. & N.H.; Disaster Reserve (Class 12), $425.00.
*Includes $5,102.74 for Rehabilitation.
**Includes $21,906.98 for Mine Rescue Work.

TABLE 16

NUMBER OF ACCIDENTS IN 1932 INVOLVING PAYMENT

Class	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
1	252	856	123	8	1,239
2	844	547	61	3	1,455
3	306	182	40	2	530
4	530	318	75	2	925
5	1,203	1,227	179	23	2,632
6	287	241	23	4	555
7	144	57	17	2	220
8	613	221	28	1	863
9	1,022	323	52	3	1,400
10	1,932	610	107	6	2,655
11	1,495	497	83	1	2,076
12	649	474	50	3	1,176
13	196	195	20	1	412
14	390	157	20	..	567
15	1,595	1,068	106	9	2,778
16	495	219	43	..	757
17	593	352	42	1	988
18	738	472	10	3	1,223
19	448	301	51	1	801
20	530	746	83	5	1,364
21	882	1,286	98	8	2,274
22	141	113	17	2	273
23	359	299	32	7	697
24	1,187	1,176	134	4	2,501
Schedule 2	6	1,460	135	36	1,637
Crown Cases	483	2,069	176	32	2,760
TOTALS	17,320	15,466	1,805	167	34,758

TABLE 17

MONTH OF OCCURRENCE OF ACCIDENTS, 1932

Month of Occurrence	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
January	1,406	1,521	205	14	3,146
February	1,475	1,589	191	17	3,272
March	1,471	1,506	151	13	3,141
April	1,376	1,176	134	13	2,699
May	1,578	1,182	146	12	2,918
June	1,631	1,319	155	16	3,121
July	1,394	1,256	130	14	2,794
August	1,527	1,217	130	9	2,883
September	1,472	1,204	133	11	2,820
October	1,488	1,238	149	27	2,902
November	1,369	1,164	139	14	2,686
December	1,133	1,094	142	7	2,376
TOTALS	17,320	15,466	1,805	167	34,758

TABLE 18

LOCALITY OF ACCIDENTS, 1932

County or District	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
Algoma	237	366	45	2	650
Brant	310	207	22	1	540
Bruce	30	65	12	1	108
Carleton	543	699	49	10	1,301
Dufferin	10	19	4	1	34
Dundas	8	13	..	..	21
Durham	74	33	8	..	115
Elgin	91	101	14	2	208
Essex	987	370	74	2	1,433
Frontenac	234	319	31	1	585
Glengarry	41	24	1	..	66
Grenville	120	62	8	..	190
Grey	162	131	23	..	316
Haldimand	77	72	8	..	157
Haliburton	20	28	5	..	53
Halton	87	77	10	1	175
Hastings	204	286	37	2	529
Huron	52	63	7	..	122
Kenora	177	482	35	6	700
Kent	244	92	9	4	349
Lambton	254	177	18	1	450
Lanark	68	154	22	1	245
Leeds	117	115	8	2	242
Lennox-Addington	11	23	4	..	38
Lincoln	449	259	36	5	749
Manitoulin	5	22	..	..	27
Middlesex	348	428	49	4	829
Muskoka	44	76	11	2	133
Nipissing	62	308	31	2	403
Norfolk	91	63	7	2	163
Northumberland	43	69	12	..	124
Ontario	353	135	20	..	508
Oxford	208	131	20	1	360
Parry Sound	30	168	19	1	218
Patricia	19	42	1	1	63
Peel	31	55	6	..	92
Perth	165	140	21	1	327
Peterborough	254	140	22	2	418
Prescott	60	60	1	1	122
Prince Edward	9	26	..	1	36
Rainy River	54	142	4	..	200
Renfrew	126	159	23	3	311
Russell	10	21	2	..	33
Simcoe	323	310	45	6	684
Stormont	66	65	17	1	149
Sudbury	150	348	68	6	572
Temiskaming	1,714	1,616	201	18	3,549
Thunder Bay	411	890	85	6	1,392
Victoria	85	67	6	..	158
Waterloo	754	355	45	3	1,157
Welland	693	481	64	15	1,253
Wellington	218	191	24	2	435
Wentworth	1,211	671	94	9	1,985
York	5,171	4,012	410	38	9,631
Not in Ontario	5	38	7	..	50
TOTALS	17,320	15,466	1,805	167	34,758

TABLE 19

TIME LOSS, AVERAGE AGE, AND AVERAGE WAGE, 1932

Class	TIME LOSS*						AGE	WAGE
	Temporary Disability		Permanent Disability		Death Cases		All Cases	All Cases
	Total Days	Average Days	Total Days	Average Days	Total Days	Average Days	Average Age (Years)	Average Weekly Wage
								$ c.
1	22,008	25.71	10,932	88.88	4	.50	34.12	13.28
2	11,835	21.64	5,456	89.44	0	0	37.53	18.56
3	3,149	17.30	2,027	50.68	3	1.50	35.09	16.15
4	6,708	21.09	4,793	63.91	0	0	38.21	15.74
5	25,849	21.07	17,407	97.25	19	.83	34.08	28.84
6	6,356	26.37	3,436	149.39	277	69.25	37.85	18.94
7	1,702	29.86	2,919	171.71	0	0	39.10	18.24
8	4,626	20.93	1,681	60.04	0	0	37.58	16.55
9	7,334	22.71	4,855	93.37	29	9.67	39.67	18.84
10	12,223	20.04	6,280	58.69	79	13.17	34.84	18.81
11	10,216	20.56	7,708	92.87	0	0	34.44	21.93
12	11,394	24.04	4,461	89.22	4	1.33	37.07	22.03
13	4,793	24.58	1,659	82.95	0	0	39.92	20.66
14	2,666	16.98	1,299	64.95	—	—	36.08	18.90
15	22,798	21.35	10,283	97.01	0	0	33.13	19.19
16	4,379	20.00	3,515	81.74	—	—	32.13	17.23
17	6,656	18.91	3,542	84.33	9	9.00	32.10	15.71
18	8,412	17.82	1,417	141.70	1	.33	29.40	17.49
19	5,867	19.49	3,370	66.08	0	0	31.60	19.94
20	17,081	22.90	10,652	128.34	0	0	35.32	18.51
21	30,995	24.10	15,821	161.44	0	0	35.81	17.10
22	3,100	27.43	2,835	166.76	0	0	35.66	21.37
23	6,722	22.48	6,525	203.91	0	0	35.63	19.05
24	30,542	25.97	23,681	176.72	12	3.00	35.97	21.48
Schedule 2	36,582	25.06	17,466	129.38	36	1.00	41.54	22.00
Crown . . .	51,877	25.07	23,100	131.25	202	6.31	37.95	17.43
ALL.	355,870	23.01	197,120	109.21	675	4.04	36.05	19.49

*This does not include loss of man power by permanent impairment or death.

TABLE 20

TOTAL AND AVERAGE COMPENSATION AND MEDICAL AID COSTS, 1932, SCHEDULE 1, BY CLASSES

Compensation Costs

Class	Temporary Disability Cases		Permanent Disability Cases				Death Cases						ALL CASES	
	For Temporary Disability		For Temporary Disability		For Permanent Disability		For Temporary Disability		For Death Benefits		For Funeral Expenses			
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	82,303 28	96 15	21,080 80	171 39	37,652 32	306 12	7 29	91	12,938 00	1,617 25	1,000 00	125 00	154,981 69	157 02
2	18,697 70	34 18	6,013 64	98 58	22,108 13	362 43	0	0	12,032 00	4,010 67	375 00	125 00	59,226 47	96 93
3	9,191 91	50 51	4,296 30	107 41	14,687 32	367 18	9 76	4 88	15,769 00	7,884 50	250 00	125 00	44,204 29	197 34
4	27,744 77	87 25	9,098 56	121 31	29,536 34	393 82	0	0	14,628 00	7,314 00	250 00	125 00	81,257 67	205 72
5	76,407 44	62 27	53,269 75	297 60	132,064 33	737 79	63 97	2 78	80,852 00	3,515 30	2,875 00	125 00	345,532 49	241 80
6	28,445 01	118 03	6,918 52	300 81	18,075 00	785 87	670 80	167 70	27,454 00	6,863 50	500 00	125 00	82,063 33	306 21
7	6,637 89	116 45	6,896 76	405 69	13,157 88	773 99	0	0	14,758 00	7,379 00	250 00	125 00	41,700 53	548 69
8	20,681 69	93 58	5,094 33	181 94	15,106 00	539 50	0	0	3,491 00	3,491 00	125 00	125 00	44,498 02	177 99
9	28,231 53	87 40	11,996 82	230 71	15,543 72	298 92	68 30	22 77	19,291 00	6,430 33	375 00	125 00	75,506 37	199 75
10	31,492 67	51 63	15,303 89	143 03	46,354 20	433 22	186 27	31 05	22,837 00	3,806 17	750 00	125 00	116,924 03	161 72
11	32,088 21	64 56	19,015 54	229 10	42,647 83	513 83	0	0	6,106 00	6,106 00	125 00	125 00	99,982 58	172 09
12	37,430 06	78 97	10,926 73	218 53	21,302 40	426 05	8 27	2 76	4,763 00	1,587 67	375 00	125 00	74,805 46	141 95
13	13,787 33	70 70	5,429 24	271 46	8,628 00	431 40	0	0	0	0	125 00	125 00	27,969 57	129 49
14	6,828 18	43 49	2,807 93	140 40	9,983 19	499 16	....	....	....	....	....	....	19,619 30	110 84
15	70,096 54	65 63	23,815 14	224 67	40,081 23	378 12	0	0	30,853 00	3,428 11	1,083 00	120 33	165,928 91	140 26
16	8,823 04	40 29	8,257 71	192 04	24,744 85	575 46	....	....	....	....	....	....	41,825 60	159 64
17	17,206 64	48 88	7,672 74	182 68	23,832 26	567 43	22 58	22 58	6,096 00	6,096 00	125 00	125 00	54,955 22	139 13
18	43,895 60	93 00	3,108 24	310 82	5,434 56	543 46	2 78	93	19,094 00	6,364 67	375 00	125 00	71,910 18	148 27
19	16,617 92	55 21	8,066 91	158 17	24,202 39	474 56	0	0	0	0	125 00	125 00	49,012 22	138 84
20	47,166 28	63 23	24,096 47	290 32	35,935 25	432 95	0	0	17,115 00	3,423 00	625 00	125 00	124,938 00	149 81
21	90,924 09	70 70	36,728 03	374 78	61,433 26	626 87	0	0	31,772 00	3,971 50	1,000 00	125 00	221,857 38	159 38
22	8,979 17	79 46	7,308 10	429 89	23,454 74	1,379 69	0	0	6,097 00	3,048 50	250 00	125 00	46,089 01	349 16
23	29,696 06	99 32	19,133 90	597 94	27,040 89	845 03	0	0	34,813 00	4,973 29	875 00	125 00	111,558 85	330 06
24	127,917 14	108 77	63,471 25	473 67	87,448 17	652 60	31 23	7 81	13,880 00	3,470 00	500 00	125 00	293,247 79	223 17
ALL.	881,290 15	73 83	379,807 30	254 22	780,454 26	522 39	1,071 25	10 82	394,639 00	3,986 25	12,333 00	124 58	2,449,594 96	181 05

TABLE 20—Continued

Medical Aid Costs

Class	When Medical Aid Only		In Temporary Disability Cases		In Permanent Disability Cases		In Death Cases		FOR ALL CASES	
	Total	Average	Total	Average	Total	Average	Total	Average	Total	Average
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
1	1,742 75	6 92	35,133 94	41 04	17,279 81	140 49	459 00	57 38	54,615 50	44 08
2	4,625 60	5 48	12,175 15	22 26	10,982 20	180 04	67 00	22 33	27,849 95	19 14
3	1,718 95	5 62	4,025 60	22 12	2,374 60	59 37	193 00	96 50	8,312 15	15 68
4	2,865 50	5 41	9,155 71	28 79	5,935 80	79 14	127 50	63 75	18,084 51	19 55
5	6,340 75	5 27	32,114 47	26 17	33,261 20	185 82	363 75	15 82	72,080 17	27 39
6	1,735 50	6 05	12,066 65	50 07	6,993 35	304 06	83 25	20 81	20,878 75	37 62
7	1,029 50	7 15	2,736 51	48 01	2,541 07	149 47	161 00	80 50	6,468 08	29 40
8	3,007 60	4 91	6,612 13	29 92	3,349 26	119 62	0	0	12,968 99	15 03
9	5,119 50	5 01	15,543 13	48 12	7,892 38	151 78	337 03	112 34	28,892 04	20 64
10	10,372 90	5 37	19,304 81	31 65	8,907 54	83 25	603 25	100 54	39,188 50	14 76
11	8,999 85	6 02	16,926 35	34 06	7,482 69	90 15	6 75	6 75	33,415 64	16 10
12	3,917 95	6 04	16,216 24	34 21	6,996 28	139 93	248 35	82 78	27,378 82	23 28
13	1,213 50	6 19	5,176 75	26 55	3,887 65	194 38	29 00	29 00	10,306 90	25 02
14	2,877 50	7 38	5,749 15	36 62	3,126 55	156 33	....	......	11,753 20	20 73
15	9,887 65	6 20	33,429 21	31 30	15,671 24	147 84	713 50	79 28	59,701 60	21 49
16	2,812 60	5 68	6,141 38	28 04	6,871 90	159 81	....	......	15,825 88	20 91
17	3,321 40	5 60	9,431 05	26 79	6,148 66	146 40	93 00	93 00	18,994 11	19 22
18	4,416 60	5 98	11,204 82	23 74	1,419 08	141 91	279 50	93 17	17,320 00	14 16
19	2,846 00	6 35	9,124 98	30 32	5,204 08	102 04	28 25	28 25	17,203 31	21 48
20	3,605 60	6 80	24,226 72	32 48	15,925 41	191 87	115 00	23 00	43,872 73	32 16
21	4,799 75	5 44	37,612 21	29 25	29,203 56	298 00	69 00	8 63	71,684 52	31 52
22	893 00	6 33	5,312 99	47 02	4,776 25	280 96	113 50	56 75	11,095 74	40 64
23	1,863 60	5 19	6,102 66	20 41	12,504 26	390 76	142 50	20 36	20,613 02	29 57
24	6,467 65	5 45	38,653 75	32 87	33,809 80	252 31	356 20	89 05	79,287 40	31 70
ALL.....	96,481 20	5 73	374,176 36	31 35	252,544 62	169 04	4,589 33	46 36	727,791 51	23 97

TABLE 21

ALLEGIANCE OF INJURED WORKERS, 1932

Allegiance to	Temporary Disability	Permanent Disability	Death	TOTALS
Argentine	1	....	....	1
Austria	119	17	4	140
Belgium	5	1	....	6
Bulgaria	8	....	....	8
Chile	3	1	....	4
China	2	1	....	3
Czecho-Slovakia	250	42	1	293
Denmark	14	5	....	19
Esthonia	2	....	....	2
Finland	332	41	2	375
France	39	4	1	44
Germany	56	11	1	68
Great Britain	13,368	1,560	139	15,067
Greece	3	....	....	3
Holland	4	....	....	4
Italy	275	29	3	307
Japan	2	....	....	2
Jugo-Slavia	163	8	2	173
Latvia	2	....	....	2
Lithuania	11	1	1	13
Norway	23	9	....	32
Peru	1	....	....	1
Persia	8	....	....	8
Poland	312	36	3	351
Portugal	2	....	....	2
Roumania	59	7	1	67
Russia	215	14	4	233
Spain	3	....	....	3
Sweden	124	11	1	136
Switzerland	6	1	....	7
Turkey	11	....	....	11
United States	43	6	4	53
TOTALS	15,466	1,805	167	17,438

TABLE 22

SEX AND MARITAL CONDITION OF INJURED WORKERS, 1932

Sex and Marital Condition	Temporary Disability	Permanent Disability	Death	TOTALS
Males—				
Married	10,112	1,244	124	11,480
Single	4,869	501	32	5,402
Widowed	246	34	3	283
Not specified	63	7	7	77
Totals	15,290	1,786	166	17,242
Females—				
Married	25	....	....	25
Single	126	18	1	145
Widowed	25	1	....	26
Not specified	....	....	....	....
Totals	176	19	1	196
GRAND TOTALS	15,466	1,805	167	17,438

TABLE 23

WEEK OF TERMINATION OF TEMPORARY DISABILITIES, 1932

In 6,423 cases the disability terminated in 1 to 2 weeks after the accident.
" 2,979 " " " " 2 " 3 " " "
" 1,804 " " " " 3 " 4 " " "
" 1,102 " " " " 4 " 5 " " "
" 803 " " " " 5 " 6 " " "
" 527 " " " " 6 " 7 " " "
" 385 " " " " 7 " 8 " " "
" 289 " " " " 8 " 9 " " "
" 196 " " " " 9 " 10 " " "
" 161 " " " " 10 " 11 " " "
" 154 " " " " 11 " 12 " " "
" 98 " " " " 12 " 13 " " "
" 85 " " " " 13 " 14 " " "
" 78 " " " " 14 " 15 " " "
" 58 " " " " 15 " 16 " " "
" 33 " " " " 16 " 17 " " "
" 38 " " " " 17 " 18 " " "
" 41 " " " " 18 " 19 " " "
" 33 " " " " 19 " 20 " " "
" 22 " " " " 20 " 21 " " "
" 22 " " " " 21 " 22 " " "
" 13 " " " " 22 " 23 " " "
" 14 " " " " 23 " 24 " " "
" 15 " " " " 24 " 25 " " "
" 13 " " " " 25 " 26 " " "
" 14 " " " " 26 " 27 " " "
" 7 " " " " 27 " 28 " " "
" 8 " " " " 28 " 29 " " "
" 6 " " " " 29 " 30 " " "
" 5 " " " " 30 " 31 " " "
" 7 " " " " 31 " 32 " " "
" 2 " " " " 32 " 33 " " "
" 3 " " " " 33 " 34 " " "
" 1 " " " " 34 " 35 " " "
" 22 " " " " 36 " 52 " " "
" 5 " " " did not terminate in 52 " " "

15,466 TOTAL CASES

TABLE 24

NATURE OF INJURIES, 1932

Temporary Disability Cases

Class	Bruises, Contusions and Abrasions	Cuts, Lacerations, and Punctures	Fractures	Crushes	Sprains, Strains, Twistings, and Wrenchings	Scalds and Burns	Eye Injuries	Herniae	Internal Injuries	Concussions (brain, spine, etc.)	Dislocations	All Other Injuries	IndustrialDiseases (Schedule 3)	TOTALS
1......	233	325	115	50	80	11	18	7	1	1	1	14	....	856
2......	162	160	68	34	62	16	17	10	1	1	....	16	....	547
3......	36	109	13	5	10	1	4	1	....	....	1	1	1	182
4......	69	150	35	22	13	9	14	3	....	1	....	2	....	318
5......	284	434	259	70	80	22	60	8	1	....	5	3	1	1,227
6......	67	77	39	22	16	3	11	4	1	....	1	....	....	241
7......	14	9	9	5	3	10	2	3	....	....	....	2	....	57
8......	54	56	31	21	11	31	11	2	....	....	....	2	2	221
9......	77	110	53	23	22	14	14	2	....	....	....	8	....	323
10......	114	259	57	49	35	38	30	8	....	1	3	8	8	610
11......	118	172	59	34	45	22	32	7	....	2	3	....	3	497
12......	132	118	62	30	63	35	7	7	1	....	5	7	7	474
13......	49	60	34	12	26	4	3	2	....	....	4	1	....	195
14......	35	71	17	4	14	8	5	2	....	1	....	....	....	157
15......	248	388	114	63	116	78	17	19	1	2	8	14	....	1,068
16......	39	92	19	19	17	15	6	3	....	....	....	7	2	219
17......	63	155	35	21	32	23	11	4	....	1	5	2	....	352
18......	86	277	31	14	34	14	9	2	....	1	....	4	....	472
19......	59	131	36	38	12	11	5	6	....	....	1	....	2	301
20......	218	204	115	61	101	13	13	6	....	....	8	2	5	746
21......	345	378	164	116	129	44	51	21	3	....	8	26	1	1,286
22......	39	23	7	6	18	8	3	5	....	1	2	1	....	113
23......	100	75	38	27	40	6	8	1	....	....	2	2	....	299
24......	334	357	167	53	135	51	43	16	2	3	11	4	....	1,176
Sched. 2.	423	369	213	99	197	40	45	18	3	8	15	30	....	1 460
Crown...	671	468	291	139	302	36	77	30	1	10	16	27	1	2,069
ALL....	4,069	5,027	2,081	1,037	1,613	563	516	197	15	33	99	183	33	15,466

TABLE 24—Continued

Permanent Disability Cases

Part of Body Affected	Per Cent. Impairment of Total Earning Capacity											
	0.0– 9.9	10.0–19.9	20.0–29.9	30.0–39.9	40.0–49.9	50.0–59.9	60.0–69.9	70.0–79.9	80.0–89.9	90.0–99.9	100.	TOTALS
Foot	132	5	1	1	....	....	....	....	....	....	....	139
Leg	181	4	6	2	5	4	2	1	1	....	1	207
Head	32	....	....	2	....	....	....	....	....	....	3	37
Face	13	....	....	....	....	....	....	....	....	....	....	13
Eye	50	63	....	1	....	....	1	....	....	....	2	117
Ear	4	....	....	....	....	....	....	....	....	....	....	4
Teeth	60	....	....	....	....	....	....	....	....	....	....	60
Arm	116	2	8	4	6	10	5	2	1	....	....	154
Hand	75	3	4	13	....	1	1	1	....	....	....	98
Thumb and three fingers	....	1	....	....	....	....	....	....	....	....	....	1
Thumb and two fingers	....	....	....	1	....	....	....	....	....	....	....	1
Thumb and one finger	7	1	....	....	....	....	....	....	....	....	....	8
Thumb	152	5	....	....	....	....	....	....	....	....	....	157
One finger	569	1	....	....	....	....	....	....	....	....	....	570
Two fingers	73	2	1	....	....	....	....	....	....	....	....	76
Three fingers	20	6	2	....	....	....	....	....	....	....	....	28
Four fingers	13	3	9	1	....	....	....	....	....	....	....	26
Internal organs	1	1	....	....	....	1	....	....	....	....	....	3
Industrial diseases	10	....	....	1	....	....	....	....	....	....	5	16
All other	79	3	....	....	1	2	1	1	....	....	3	90
TOTALS	1,587	100	31	26	12	18	10	5	2	....	14	1,805

Industrial Diseases

Description of Disease	Medical Aid Only	Temporary Disability	Permanent Disability	Death	TOTALS
Lead poisoning or its sequelae	1	29	3	..	33
Silicosis, pneumoconiosis, phthisis	1	1	12	1	15
Caisson disease	1	1	1	..	3
Benzol poisoning or its sequelae	..	..	..	1	1
Chrome poisoning or its sequelae	1	2	..	..	3
TOTALS	4	33	16	2	55

TABLE 25

CAUSES OF ACCIDENTS, 1932

Cause	Medical Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
A. Prime Movers:					
1. Motors, engines, fans, pumps, and automatic stokers	70	57	19	1	147
2. Shafting, coupling, collars, set-screws, and keys	31	28	10	1	70
3. Belts, lines, pulleys, chains, and sprockets	84	97	13	2	196
4. Gears, cogs, cams, and friction wheels	28	26	13	..	67
Totals	213	208	55	4	480
B. Working Machines:					
1. Brick-making machines	1	4	1	..	6
2. Glass-making machines	12	2	..	..	14
3. Pottery-making machines	3	..	1	..	4
4. Stone-working machines	17	2	..	..	19
5. Mining machines, n.e.s.	....	13	5	1	19
6. Mine drills	106	125	14	..	245
7. Contracting machines	13	24	4	..	41
8. Metal-working machines	73	5	..	1	79
9. Abrasive wheels	1,123	78	16	..	1,217
10. Drilling and reaming machines	349	23	3	..	375
11. Lathes	240	77	9	1	327
12. Milling machines	25	16	6	..	47
13. Pneumatic tools	30	80	17	..	127
14. Presses—cutting, shaping, forming	184	108	68	2	362
15. Shearing and punching machines	24	19	4	..	47
16. Wire-working machines	47	24	11	1	83
17. Welding and heat-cutting machines	118	17	3	..	138
18. Wood-working machines, n.e.s.	28	30	9	..	67
19. Planers, jointers, and edgers	98	55	31	..	184
20. Saws	199	238	102	2	541
21. Shapers, moulders, and headers	50	43	22	2	117
22. Pulp and paper-making machines, n.e.s.	2	1	..	..	3
23. Barkers	31	19	2	..	52
24. In-running rolls	41	29	9	1	80
25. Paper-products and printing machines, n.e.s.	17	10	3	..	30
26. Cutting machines	13	24	15	..	52
27. Presses—printing and embossing	67	74	23	..	164
28. Stayers	17	16	3	..	36
29. Tanning machines	16	9	5	..	30
30. Leather-working machines	20	6	2	..	28
31. Rubber-working machines	19	10	6	..	35
32. Textile machines, n.e.s.	8	9	3	..	20
33. Carders	10	7	5	..	22
34. Pickers	4	2	4	..	10
35. Sewers	151	127	2	..	280
36. Finishers and launderers	14	23	3	..	40
37. Knitters	30	17	3	..	50
38. Cutters	18	6	3	..	27
39. Weavers	42	35	7	..	84
40. Spinners	18	4	2	..	24
41. Food-products, laboratory, and tobacco machines, n.e.s.	57	74	19	1	151
42. Baking machines	15	18	6	..	39
43. Bottling machines	59	18	2	..	79
44. Office machines	3	3	..	..	6
Totals	3,412	1,524	453	12	5,401

TABLE 25—Continued

Cause	Medical Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
C. Hoisting Apparatus:					
1. Elevators	23	39	8	1	71
2. Cranes	48	61	12	1	122
3. Conveyors	58	55	16	3	132
4. Mine cages	13	27	2	..	42
5. Other hoisting apparatus	71	116	29	2	218
Totals	213	298	67	7	585
D. Dangerous Substances:					
1. Steam escapes	30	54	2	5	91
2. Explosives	38	92	26	20	176
3. Electric currents	33	40	12	7	92
4. Conflagrations	2	1	..	1	4
5. Hot and inflammable substances and flames	433	392	15	2	842
6. Corrosive substances	115	62	2	1	180
7. Poisonous and deleterious substances	16	78	16	2	112
Totals	667	719	73	38	1,497
E. Stepping On or Striking Against Objects:					
1. Stepping on objects	303	211	2	..	516
2. Striking against objects	2,298	868	49	2	3,217
Totals	2,601	1,079	51	2	3,733
F. Falling Objects:					
1. From collapse of structure	8	2	..	..	10
2. From elevations	326	309	27	5	667
3. In mines and quarries	237	523	62	7	829
4. Other	7	93	5	4	109
Totals	578	927	94	16	1,615
C. Handling Objects:					
1. Heavy objects—loading, carrying, rolling, or piling	2,811	3,370	209	4	6,394
2. Sharp objects	484	207	22	..	713
3. Hand trucks, carts, and wheel-barrows	174	268	19	..	461
Totals	3,469	3,845	250	4	7,568
H. Tools:	1,763	1,836	194	..	3,793
I. Runaways and Animals:					
1. Runaways	..	28	5	1	34
2. Animals	86	135	15	..	236
Totals	86	163	20	1	270

TABLE 25—Continued

Cause	Medical Aid Only	Temp. Dis.	Perm. Dis.	Death	TOTALS
J. Moving Trains, Vehicles, etc.:					
1. Train wrecks	1	17	4	5	27
2. Caught in switch or hit fixed objects	16	6	3	1	26
3. Struck by or caught between cars and engines	..	40	14	10	64
4. Other causes, cars, and engines	2	35	8	..	45
5. Mine and quarry cars	27	59	8	..	94
6. Automobiles and other power vehicles	311	462	70	15	858
7. Animal-drawn vehicles	65	173	24	2	264
8. All other vehicles	5	11	3	1	20
Totals	427	803	134	34	1,398
K. Falls of Persons:					
1. From elevations	74	259	47	11	391
2. From ladders	77	246	35	2	360
3. Into excavations, pits, and shafts	11	75	8	1	95
4. On level	826	2,114	127	1	3,068
5. Into elevator shafts	3	2	..	..	5
6. From vehicles	88	326	28	8	450
7. From collapse of support	21	115	23	1	160
8. On steps or stairways	104	195	17	..	316
9. Into tanks or vats	..	..	1	..	1
10. From tool slipping	13	35	4	..	52
Totals	1,217	3,367	290	24	4,898
L. All Other Causes:					
1. Flying fragments	2,436	427	93	1	2,957
2. Doors, gates, windows, and covers	170	142	19	..	331
3. Inhalation of gases, fumes, etc	42	17	..	3	62
4. Immersion in water and drenchings	..	..	..	16	16
5. Exposure to elements	9	40	2	..	51
6. Violence	8	12	1	..	21
7. Cave-ins	4	59	9	5	77
8 Not elsewhere specified	5	..	..	..	5
Totals	2,674	697	124	25	3,520
GRAND TOTALS	17,320	15,466	1,805	167	34,758

TABLE 26

BLOOD-POISONING CASES, 1932

Ascribed to time of injury	159
Developed 1 day after injury	205
“ 2 days “ “	190
“ 3 “ “ “	147
“ 4 “ “ “	139
“ 5 “ “ “	104
“ 6 “ “ “	62
“ 7 “ “ “	46
“ 8 “ “ “	34
“ 9 “ “ “	30
“ 10 “ “ “	16
“ 11 “ “ “	20
“ 12 “ “ “	7
“ 13 “ “ “	8
“ 14 “ “ “	10
“ 15 “ “ “	1
“ 16 “ “ “	7
“ 17 “ “ “	5
“ 18 “ “ “	3
“ 19 “ “ “	4
“ 20 “ “ “	1
“ 21 “ “ “	2
“ 22 “ “ “	4
“ 23 “ “ “	1
“ 25 “ “ “	2
“ 26 “ “ “	2
“ 29 “ “ “	1
“ 32 “ “ “	1
“ 36 “ “ “	2
“ 40 “ “ “	1
“ 66 “ “ “	1
“ 145 “ “ “	1
Immobilized joints due to infections	11
Amputations due to infections	8
Permanent eye injuries due to infections	4
Deaths due to infections	6
TOTAL CASES OF INFECTIONS	1,245

TABLE 27

DEATH CASES, 1932

Number of Cases

Pension Awards	111
Lump Sums	31
Burial Expenses and Medical Aid only	22
Burial Expenses only	3
TOTAL	167

Number, Relationship, and Residence of Dependants

Relationship of Dependants	Resident in Ontario	Not Resident in Ontario	TOTALS
Widow	107	12	119
Child	157	25	182
Mother	15	4	19
Father	10	4	14
Other	..	..	..
TOTALS	289	45	334

APPENDIX

SUMMARY OF COMPENSATION AND MEDICAL AID AWARDED

From Commencement of Act to End of 1933

Compensation Awarded

Schedule 1 Industries	$66,073,026 94
Schedule 2 (including Crown Cases)	20,792,093 84
Total Compensation	$86,865,120 78

Medical Aid Paid

Schedule 1 Industries	$13,884,186 58
Schedule 2 (including Crown Cases)—Furnished by Employer	
Total Benefits Awarded by Board	$100,749,307 36

SUMMARY OF ACCIDENTS REPORTED

From Commencement of Act to End of 1933

Schedule 1 Industries	859,615	
Schedule 2 (including Crown Cases)	148,468	
Total Number of Accidents Reported		1,008,083

FINANCIAL STATEMENT FOR SCHEDULE 1 INDUSTRIES

From Commencement of Act to End of 1933

Income and Credits		
Net assessments received		$82,740,667 82
Received under Section 8		111,165 77
Received under Section 83 (4)		51,706 16
Received under Section 105		133,325 24
Received under Section 112 (3)		5,289 09
Received from D.P. & N.H.		189,800 03
Interest received		2,748,890 10
Credited from Disaster Reserve		265,083 48
Credited from Pension Fund		1,027,214 62
Received from C.N.I.B.		167 70
Received from A.C.R.		7,889 67
Assessments estimated to be due on adjustment of 1933 Pay Rolls	$74,375 00	
Less: Merit Rating Refunds to be made	94,995 58	
		– 20,620 58
		$87,260,579 10

Expenditure and Charges	
Compensation paid other than pensions, compensation deferred, and under Secs. 22 and 36	$35,677,027 98
Pensions awarded	28,789,003 14
Deferred Compensation awarded	747,146 35
Paid under Section 22	996 40
Paid under former Section 36	41 75
Paid under Section 8	8,667 71
Medical Aid paid	13,824,002 06
Administration Expenses paid	3,241,260 18
Paid to Safety Associations	1,678,197 28
Rehabilitation paid	37,935 94
Transferred to Disaster Reserve	353,259 80
Compensation estimated outstanding	1,179,875 98
Medical Aid estimated outstanding	266,838 12
Paid under Mine Rescue Work	87,831 16
Balance at Credit of Classes (Table 1)	1,368,495 25
	$87,260,579 10

SUMMARY OF PENSION FUND, SCHEDULE 1

From Commencement of Act to End of 1933

Pension awards	$28,671,714 66
Amount transferred from Disaster Reserve	117,288 48
Amount transferred from Silicosis Account	394,711 45
Interest added	10,013,186 92
	$39,196,901 51
Pension payments	18,392,601 11
	$20,804,300 40
Amount transferred to Current Fund	1,027,214 62
Balance December 31, 1933	$19,777,085 78

SUMMARY OF COMPENSATION DEFERRED, SCHEDULE 1

From Commencement of Act to End of 1933

Compensation deferred	$747,146 35
Interest added	96,628 55
	$843,774 90
Paid on Compensation Deferred, Principal and Interest	789,023 33
Balance December 31, 1933	$54,751 57

SUMMARY OF DISASTER RESERVE, SCHEDULE 1

From Commencement of Act to End of 1933

Amount set aside	$353,259 80
Interest added	181,919 24
	$535,179 04
Transferred to classes	265,083 48
Balance December 31, 1933	$270,095 56

SUMMARY OF SILICOSIS ACCOUNT, SCHEDULE 1

From Commencement of Act to End of 1933

Assessments collected		$1,850,038 21
Interest added		54,909 64
		$1,904,947 85
Payments made:		
For Compensation	$820,558 33	
For Medical Aid	60,184 52	
For Salaries and Expenses	209,019 90	
For Handling Claims and Supervision	79,987 72	
For Salaries and Expenses of Referee Board	19,688 49	
		1,189,438 96
Balance, December 31, 1933		$715,508 89

SUMMARY OF INVESTMENTS, SCHEDULE 1

From Commencement of Act to End of 1933

Invested	$39,129,064 19
Less principal returned	15,125,507 90
Book Value of Investments, December 31, 1933, Principal	$24,003,556 29
Plus accrued interest not received or apportioned	308,656 13
Total Book Value of Investments, December 31, 1933	$24,312,212 42

SUMMARY OF SCHEDULE 2 FUNDS

From Commencement of Act to End of 1933

Received from employers		$15,477,299 63
Interest received		2,657,299 95
		$18,134,599 58
Payments made	$13,876,034 87	
Deposits returned to employers	809,108 67	
		14,685,143 54
Cash in Bank and Invested, December 31, 1933		$3,449,456 04

SUMMARY OF INVESTMENTS, SCHEDULE 2

From Commencement of Act to End of 1933

Invested	$3,940,340 77
Less principal returned	524,322 81
Book Value of Investments, December 31, 1933, Principal	$3,416,017 96
Plus accrued interest not received or apportioned	33,975 56
Total Book Value of Investments, December 31, 1933	$3,449,993 52

SUMMARY OF RECEIPTS AND PAYMENTS

From Commencement of Act to End of 1933

Schedule 1

Receipts		
Assessments, including additional assessments, added percentage, and interest for under, or over-estimate	$83,604,741 40	
Less Merit Rating (Charges... $1,067,195 43 Refunds.... 1,931,269 01)	$864,073 58	
		$82,740,667 82
Under Section 8		111,165 77
Under Section 83 (4)		51,706 16
Under Section 105		133,325 24
Under Section 112 (3)		5,289 09
From D.P. & N.H.		189,800 03
From C.N.I.B		167 70
From A.C.R.		7,889 67
From Silicosis		1,850,038 21
From Province of Ontario under Section 77, grants for administration expenses		655,500 00
From Schedule 2 and Crown employers for share of administration expenses		606,252 49
Interest from investments and bank deposits		13,095,534 45
Principal returned from investments		15,125,507 90
From Special Statistical Services		42,281 26
From Rehabilitation Clinic		13,728 50
Refund of Administration Expenses result of special investigation		782 35
From Dominion Bank—Overdraft Dec. 31st, 1933		419,176 99
		$115,048,813 63

Payments	
Compensation Payments other than on pensions or deferred awards or under Secs. 22 or 36	$35,677,027 98
Paid on Pensions	18,392,601 11
Paid on Deferred Awards, principal and interest	789,023 33
Under Section 22	996 40
Under former Section 36	41 75
Under Section 8	8,667 71
For Medical Aid	13,824,002 06
For Rehabilitation	37,935 94
For Administration Expenses	4,693,810 97
For Safety Associations	1,678,197 28
For Investments	39,129,064 19
For Silicosis	714,739 79
For Mine Rescue Work	83,899 54
For Rehabilitation Clinic	13,374 40
Overpayment of Administration Expenses from Schedule 2 employers (refunded in 1926)	12
Cash in Bank, Dec. 31, 1933	5,431 06
	$115,048,813 63

Schedule 2

Receipts	
From Employers for Deposits under Section 28 and for Claimants' Moneys	$5,995,485 56
From Employers for Deposits under Section 32	9,481,814 07
Interest from Investments and Bank Deposits	2,657,299 95
Principal returned from Investments	524,322 81
	$18,658,922 39

Payments	
To Claimants out of Deposits under Section 28 and Claimants' Moneys	$4,513,870 25
Returned to Employers out of Deposits under Section 28	734,022 39
Paid out of Deposits under Section 32:	
To Claimants	9,359,731 06
Returned to Employers	69,316 78
To Schedule 1 for Administration Expenses	5,769 50
Rehabilitation Paid	2,433 56
For Investments	3,940,340 77
Cash in Bank, Dec. 31, 1933	33,438 08
	$18,658,922 39

AUDITORS' CERTIFICATE

THE WORKMEN'S COMPENSATION BOARD OF ONTARIO,
Metropolitan Building, Toronto, Ontario.

Gentlemen:

We have completed a continuous audit of the books of the Board for the year ended December 31, 1933, and have obtained all the information and the explanations we have required.

In our opinion, the Statements of Receipts and Payments, Table 6, Schedules 1 and 2, do truly and fairly set forth the cash transactions of the Board for the calendar year 1933, subject to any adjustments of receipts of interest on registered bonds payable in New York funds, but which have been received in Canadian funds. In addition to the cash receipts for the year, as shown by the accompanying statements, principal and interest on investments became due to a total of $116,190.11, but were not paid, making a total of interest and principal payments in arrears as at December 31, 1933, of $139,257.46.

Bank balances at the close of the period have been verified by direct communication with the Board's Bankers.

The Investments of the Board as at December 31, 1933, as shown by the books, have been verified by count. The book value of these Investments, taken at cost adjusted by amortization, is $27,419,574.25.

Respectfully submitted,

FRED PAGE HIGGINS & CO.,
Chartered Accountants.

Toronto, February 19, 1934.

TABLE 6

STATEMENT OF RECEIPTS AND PAYMENTS DURING 1933

Schedule 1

Receipts		
Cash in Banks, January 1, 1933:		
Dominion Bank	$5,139 96	
Canadian Bank of Commerce	634 38	
Royal Bank of Canada	5,595 86	
		$11,370 20
Net Assessments, Penalties, etc.		
Gross Assessments	$2,568,211 00	
Under Sec. 8	10,460 32	
Under Sec. 105	3,663 36	
Under Sec. 112(3)	111 16	
From D. P. and N.H.	7,005 02	
From Accident Cost Refunds	7,889 67	
	$2,597,340 53	
Less:		
Assessments and Penalties Refunded	$125,343 99	
Merit Rating Refunds	1,810 74	
	$127,154 73	
		2,470,185 80
Interest	$1,130,178 89	
Exchange	7,001 92	
Apportionment of Discounts on Debenture Purchases Applicable to 1933 (See Contra)	44,543 68	
	$1,181,724 49	
Less—Interest Charged on Bank Overdraft	6,151 80	
		1,175,572 69
From Schedule 2 Employers and Dominion Crown for Administration Expenses. Account of Prior Years Paid Out of Schedule 1 in 1932		64,657 34
Principal returned from Investments	$95,258 73	
Decrease in Value of Investments by Amortization of Premiums	53,743 84	
		149,002 57
Silicosis		564,797 57
Special Statistical Services		11,142 09
Rehabilitation Clinic:		
Refunds from Medical Aid, Schedule 1	$6,862 00	
From Schedule 2 Employers	664 00	
		7,526 00
Bank Overdraft, December 31, 1933, Dominion Bank		419,176 99
		$4,873,431 25

Payments		
Compensation Other than Pensions and Compensation Deferred		$1,254,852 46
Pensions		1,889,130 25
Deferred Compensation		36,933 51
Rehabilitation		5,108 07
Medical Aid		649,571 04
Silicosis		109,201 59
Under Section 8		561 92
Mine Rescue Work		12,949 46
Administration Expenses		311,434 59
Safety Associations		136,381 51
Rehabilitation Clinic Expenses		6,473 59
Investments	$410,858 52	
Increase in Book Value of Investments by Apportionment of Discounts on Debenture Purchases Applicable to 1933 (See Contra)	44,543 68	
		455,402 20
Cash in Banks, December 31, 1933		
Canadian Bank of Commerce	$3,965 45	
Royal Bank of Canada	1,465 61	
		5,431 06
		$4,873,431 25

Schedule 2

Receipts

Cash in Imperial Bank, January 1, 1933		$70,996 37
From Employers, Deposits under Section 28		155,931 72
From Employers, Claimants' Moneys		4,043 99
From Employers, Deposits under Section 32		708,323 61
Interest	$180,804 57	
Exchange	99 71	
Apportionment of Discounts on Debenture Purchases Applicable to 1933 (See Contra)	7,371 38	
Profit on Sale of Securities	997 63	
		189,273 29
Principal returned from Investments	$49,652 37	
Decrease in Value of Investments by Amortization of Premiums	869 14	
		50,521 51
		$1,179,090 49

Payments

To Claimants Out of Deposits under Section 28		$332,628 46
Deposits returned to Employers under Section 28		85,807 94
To Claimants out of Claimants' Moneys		6,025 09
Paid out of Deposits under Section 32:		
For Compensation	$625,493 47	
Medical Aid	78,108 78	
		703,602 25
Deposits returned to Employers under Section 32		10,217 29
Increase in Book Value of Investments by Apportionment of Discounts on Debenture Purchases Applicable to 1933 (See Contra)		7,371 38
Cash in Imperial Bank, Dec. 31, 1933		33,438 08
		$1,179,090 49

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- rehabilitation of ... 8
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TABLE 1

PROVISIONAL FINANCIAL STATEMENT FOR SCHEDULE 1, BY CLASSES, AS AT DECEMBER 31, 1933

Class	INCOME AND CREDITS (Actual and Estimated)					EXPENDITURE AND CHARGES (Actual and Estimated)									Adjusted Figures up to Dec. 31, 1932	Estimated Unadjusted Outstanding as at Dec. 31, 1933	PROVISIONAL BALANCE ON FIGURES IN TWO PRECEDING COLUMNS	Class
	Collected on Provisional Assessments	Estimated Adjustments of Assessments	Interest Secs. 8, 105, 112 (3), Etc	Assessment Refunds on Account of Merit Rating	TOTAL	Compensation Paid, other than Pensions	Transferred for Pensions Awarded	Compensation Awarded, Payment Deferred	Compensation Estimated Outstanding	Medical Aid Paid	Medical Aid Estimated Outstanding	Administration Expenses and Mine Rescue Work	Paid to Safety Associations	TOTAL				
	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	$ c	
1	125,158 07	59,000 00	6,955 64	11,230 43	179,883 27	62,199 32	25,124 17	1,250 00	56,549 49	29,747 83	8,256 61	21,489 95	19,097 09	223,711 49	−180,725 50	−43,828 22	−224,553 72	1
2	147,429 96	11,500 00	10,891 44	3,969 32	165,752 08	37,971 05	15,514 88		34,509 72	23,806 42	8,467 65	6,268 78	13,856 63	140,395 13	124,555 66	25,356 95	149,912 61	2
3	42,388 64	−1,675 00	93 66	324 72	40,482 58	10,628 90	2,050 00	1,050 00	7,992 65	6,559 30	1,980 55	3,201 10	3,583 87	37,045 37	−20,920 63	3,437 21	−17,483 42	3
4	67,049 21	1,100 00	1,674 12	516 24	69,307 09	26,131 29	5,789 00	400 00	18,194 76	13,703 09	1,283 57	6,124 70	6,855 16	78,481 57	19,731 51	−9,174 48	10,557 03	4
5	480,132 60	−16,800 00	46,195 85	9,969 54	469,858 91	129,187 53	74,782 20		229,586 43	47,639 95	63,289 56	**48,975 28	4,700 00	598,160 95	639,560 23	−128,302 04	511,258 19	5
6	79,689 65	3,100 00	10,132 47	7,471 68	85,750 44	12,151 18	40,221 52		91,201 40	6,298 20	16,614 63	6,877 22	7,697 45	181,061 60	175,561 06	−95,311 16	80,249 90	6
7	25,633 03	2,000 00	6,914 63	522 12	34,026 54	7,196 65	11,110 90		6,333 01	4,299 00	2,478 27	2,544 20	2,847 63	37,109 66	125,442 76	−3,083 12	122,359 64	7
8	69,758 91	−5,300 00	1,440 67	1,499 34	67,400 24	11,291 20	6,767 68		41,730 75	7,260 35	9,013 90	4,087 55	4,575 05	84,726 48	42,678 94	−17,326 24	25,352 70	8
9	86,090 91	−10,800 00	14,199 60	10,659 27	79,631 24	14,184 08	7,577 13		40,605 60	10,573 65	14,088 30	4,746 05	5,312 07	97,086 88	198,666 91	−17,455 61	181,211 29	9
10	148,819 79	18,100 00	10,080 96	2,681 82	174,238 93	42,639 20	13,262 00	950 00	98,611 49	26,665 45	19,135 43	10,726 05	12,005 27	224,294 89	121,949 53	−50,055 96	71,893 57	10
11	118,270 57	−28,100 00	4,585 89	3,913 36	90,813 10	27,591 48	979 39		28,968 96	21,312 61	5,900 11	9,300 77	10,410 05	104,463 37	30,455 13	−13,650 27	16,804 86	11
12	118,151 65	500 00	5,962 54	3,814 04	119,770 15	30,597 02	18,805 00		24,615 78	15,778 58	5,555 46	9,079 30	10,162 15	114,593 29	58,800 10	5,176 86	63,976 96	12
13	65,896 23	−6,000 00	3,111 95	2,697 66	60,330 52	13,319 09	15,004 84		9,800 11	5,956 55	4,640 01	4,727 90		53,448 50	21,250 08	6,882 02	28,132 10	13
14	32,789 36	10,000 00	138 99	2,223 22	40,705 13	10,120 48	13,855 40		13,347 62	7,761 00	1,569 88	3,450 13	3,861 60	53,966 11	5,502 17	−13,260 98	−7,758 81	14
15	198,241 96	15,500 00	5,666 72	2,061 66	217,347 02	57,538 49	41,312 92		65,757 41	34,021 19	10,011 06	19,351 20	21,659 15	252,651 42	−17,373 81	−35,304 40	−52,678 21	15
16	66,758 23	−1,700 00	4,471 05	1,217 64	68,311 64	15,682 50	11,934 00	1,275 00	19,677 47	9,122 84	4,120 61	4,847 45	5,125 60	72,085 50	55,887 88	−3,773 86	52,114 02	16
17	69,279 75	1,300 00	5,637 95	914 28	75,303 42	21,917 09	6,775 00	745 00	23,126 47	11,912 30	3,359 43	5,709 70	6,390 65	79,965 64	73,758 28	−4,662 22	69,096 06	17
18	69,339 81	750 00	2,875 94	1,216 14	71,749 64	17,061 79			18,037 99	13,208 05	4,509 50	6,545 15	7,325 75	66,688 23	18,204 09	5,061 41	23,265 50	18
19	55,080 82	−1,600 00	2,558 69	26 46	56,013 05	15,779 60	3,895 00	100 00	10,418 71	9,612 49	2,609 13	4,728 10	5,292 05	52,435 08	22,795 72	3,577 97	26,373 69	19
20	142,512 45	22,000 00	4,388 36	1,488 00	167,412 81	45,504 54	43,631 87	250 00	45,630 07	23,606 69	10,163 49	14,186 20		182,972 56	32,729 40	−15,559 75	17,169 65	20
21	156,594 36	−13,300 00	11,717 60	13,042 65	141,968 31	25,720 20	20,075 98		32,168 41	13,220 14	6,270 94	17,294 10		114,749 77	68,838 43	27,218 54	96,056 97	21
22	70,115 97	−30,000 00	6,558 50	6,106 18	40,268 29	6,585 86	12,114 00		8,029 36	3,243 85	3,138 46	4,578 20	8,408 31	46,098 04	44,732 83	−5,829 75	38,903 08	22
23	53,415 66	19,500 00	15,914 11	7,369 80	81,359 97	12,808 35	12,418 00	985 00	48,496 12	5,692 90	12,983 97	6,522 10	82 66	99,989 10	267,634 41	−18,629 13	249,005 28	23
24	232,001 29	55,500 00	5,784 79		293,289 08	58,153 09	32,558 99		206,486 20	30,727 28	46,797 84	21,995 40	23,165 68	373,553 12	−82,456 62	−80,264 04	−162,720 66	24
All	2,720,391 91	*73,375 00	†191,502 12	94,995 58	2,891,273 45	‡712,289 98	438,559 57	7,005 00	1,179,875 98	381,729 71	266,848 12	247,356 88	136,381 51	3,370,036 75	1,847,258 55	−478,763 30	1,368,495 25	All

---

*Adjusted on actual pay rolls and retroactive rates.

†Includes Interest $162,564.51, Sec. 8 $9,898.40, Sec. 105 $3,663.36, Sec. 112 (3) $111.16 reimbursement from D.P. & N.H. $7,005.02 from Accident Cost Refunds $7,889.67 Transfer from Disaster Reserve (Class 17) $370.00.

‡Includes Rehabilitation, $544.01

**Includes Mine Rescue Work $13,596.93

Class Numbers of Industries

1. Lumbering
2. Pulp and paper mills
3. Furniture manufacturing, etc
4. Planing mills, etc
5. Mining and explosives.
6. Brick manufacturing, quarrying and glass works
7. Rolling mills, etc
8. Foundries, etc
9. Fabrication structural steel, etc
10. Metal articles jewellery manufacturing, etc.
11. Agricultural implements, etc.
12. Gas, petroleum, paint, drugs soap etc
13. Mining
14. Abattoirs, etc.
15. Bakeries, canning liquors, and tobacco.
16. Tanneries, leather and rubber goods
17. Textiles.
18. Clothing, power laundries, etc.
19. Printing and stationery
20. Teaming, cartage, coal and wood yards, etc.
21. Road construction, etc.
22. Electric power, etc.
23. Steel construction, railway and canal construction, dredging, fishing, etc.
24. Building

Ontario Department of Agriculture

REPORT

OF THE

Ontario Veterinary College

1933

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ONTARIO

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1934

Report of the

Ontario Veterinary College

TO THE HONOURABLE THOMAS L. KENNEDY,
Minister of Agriculture.

SIR,—

I have the honour to present herewith the following report of the Ontario Veterinary College for the year extending from November 1st, 1932, to October 31st, 1933.

STUDENT ENROLMENT

In spite of the prolonged business depression it is gratifying to report that the student enrolment is being maintained at a satisfactory level and shows an increase over previous years. A total of 134 students were in attendance last year, while the registration for the present session comprises 150 students, thus showing an increase of 16 for the present year. Possibly the attendance has reached the point where we may not expect a further increase without additional opportunities being provided for the graduate, both in general practice and in public service. With this in view it is felt that so long as the present attendance is being maintained there is no pressing need for intensive efforts to increase the enrolment as it would entail additional staff and increased expenditure without any real necessity for so doing at the present time. At a Special Convocation of the University of Toronto held on May 5th the degree of Bachelor of Veterinary Science (B.V.Sc.) was conferred on 19 graduates by the Chancellor (Sir William Mulock). As in previous years, students are again in attendance from each of the Provinces of Canada, from Great Britain and other parts of the Empire, as well as from the United States. The College has thus acquired an international reputation which should be regarded as a national asset of great value, in that many graduates of the College are occupying highly important official positions in many countries outside of Canada.

THE TEACHING STAFF

No changes were made in the teaching staff during the year, and the personnel and their respective departments are as follows for this session:

C. D. McGilvray, M.D.V., D.V.Sc., Principal,
Contagious Diseases, Sanitary Science.
J. N. Pringle, M.R.C.V.S., B.V.Sc., Sporadic Diseases, Hygiene.
R. A. McIntosh, M.D.V., B.V.Sc., Diseases of Cattle, Obstetrics, Therapeutics.
W. J. R. Fowler, V.S., B.V.Sc., Surgery, Materia Medica.
H. D. Nelson, B.V.Sc., D.V.Sc., Anatomy.
H. E. Batt, V.S., B.V.Sc., Zoology, Histology, Meat Hygiene.
F. W. Schofield, B.V.Sc., D.V.Sc., Pathology, Bacteriology.
A. A. Kingscote, B.V.Sc., Parasitology, Pathology.
L. Stevenson, B.V.Sc., M.S., Physiology.
J. S. Glover, B.V.Sc., Poultry Diseases, Milk Hygiene.
F. J. Cote, B.V.Sc., Canine and Feline Diseases.
Angus Dunbar, Jurisprudence.

COURSES OF STUDY AND INSTRUCTION

A consistent effort is being made to provide a good standard of instruction throughout and to further correlate class and laboratory work in keeping with the best educational practices.

The general aim has been to diversify and improve the course so as to adequately equip the graduate to render more effectively the services which live stock owners, allied interests and the general public seek to acquire. The trend and demand for veterinary service has greatly changed within the last decade in the prevention of diseases, especially those which are liable to be disseminated through the ordinary channels of live stock traffic. As a result greater efforts are being made to ensure the highest possible standards of animal health by the prevention and control of diseases which are infectious and communicable and likely to become more prevalent and widespread unless checked. Greater attention is also being given to create a greater interest in disease of animals communicable to human beings, either directly or indirectly, by animal food products, but more especially through milk borne infection and unwholesome meat food products. To meet the various exigencies of private and public service a high standard of professional qualification is necessary, hence the training of the under-graduate becomes increasingly in need of careful guidance. Adjustments are therefore necessary to meet changing conditions as they arise, and are being made from time to time in the course by developing the basic sciences and by broadening the subjects of instruction in relation to public service and private practice in their various branches. Owing to the prevailing trend towards research and investigational work every encouragement is given the undergraduate to develop a greater talent and inclination in this direction. A detailed outline of the regular course of study and instruction is contained in the college calendar which is distributed to those interested. In addition to the regular undergraduate course, special classes and laboratory work in the nature of short courses are provided for graduate practitioners. By this means the practising graduate is given the opportunity to keep abreast of the times and be of greater usefulness to those depending on his services. A special qualifying examination was arranged by the Civil Service Commission for the appointment of part-time veterinary inspectors under the Health of Animals Branch. To prepare candidates for this examination a short course of study and instruction was provided by the College for graduate practitioners desirous of qualifying. This course was given during the month of July to a group of seventy-five candidates and consisted of a series of special lectures, general discussions, clinical and laboratory demonstrations, as indicated in the following outline.

Tuberculosis—Its nature, cause and transmission.
  The application and interpretation of the different tuberculin tests.
  The post mortem appearance of tuberculosis.
  The regulations relating to tuberculosis for its control and eradication.

Johne's Disease—Its nature, cause, diagnosis and control.

General Review of Glanders, Dourine, Rabies, Mange and Hog Cholera—Dissemination, symptoms, methods of diagnosis, prevention and control.

General Review of Anthrax, Blackleg, Hemorrhagic Septicemia, Foot and Mouth Disease—Dissemination, symptoms, methods of diagnosis, prevention and control.

General Review of the Contagious Diseases Act and Regulations—The nature of the Act and Regulations in the enforcement of quarantine regulations and the control and suppression of contagious diseases.

Bang's Disease (abortion)—General review of the disease.
The use and technique of the agglutination test.
Practical demonstrations in the bleeding of cattle for the test.

Laboratory Practice—Demonstrations on the preparation and examination of laboratory specimens and post mortem technique.

RESEARCH AND INVESTIGATIONAL WORK

This has been arranged so that, as far as possible, the work commenced in previous years might be completed and new problems undertaken which seemed to deserve immediate attention. As in other years, we have endeavoured to avoid duplication of similar work or the repetition of experiments conducted elsewhere, except where necessary to establish pertinent facts. The diseases selected were essentially those which we felt were not receiving attention from any other source and appeared to be worthy of investigation for the benefit of the province as a whole. We are again indebted to many practising veterinarians and owners for their hearty co-operation and assistance in furnishing such information and assistance as was necessary. The results have been made available from time to time through departmental and professional channels and directly to the owners concerned. The scope and extent of work of this nature has naturally to be kept within the means at our disposal and cannot be increased without a larger staff and a greater appropriation. It would appear that to more adequately meet the needs a definite animal diseases research and investigational branch would be fully justified and should be created with sufficient staff, laboratory and farm facilities, field investigators, and sufficient appropriation to maintain and enlarge this valuable service along more general and broader lines throughout the province. Suitable surveys could be made as to the prevailing diseases requiring attention and the results of the work accomplished could be readily disseminated through the medium of progress reports furnished for publication direct to newspapers, farm journals, and other suitable avenues of distribution without incurring any avoidable expense for publicity. The appeals for such services to solve disease problems, both by practising veterinarians and live stock owners, would fully warrant this step being taken by your Department as soon as could be arranged. The nature of the work conducted this year is briefly summarized herewith and special descriptive reports are submitted as appendices by members of the staff individually.

Mineral Deficiency Diseases: Following the survey which was undertaken during the previous years it was determined that mineral deficiency disease in cattle was fairly widespread in some parts of the province. It was concluded that phosphorous deficiency or an imbalance of calcium and phosphorous was the underlying cause. The analyses made indicate that soil depletion from long continued cropping may cause a mineral deficiency in the grains and fodder grown on certain farms. Pastures may also become depleted and as a result cattle may suffer both during the period of summer feeding outdoors and winter feeding indoors. An experiment was conducted at the College hospital to determine the effects of feeding dairy cows with hay and grain procured from a known deficiency area. This was continued over a period of seven months and the experimental cow gradually became unthrifty with loss of weight characteristic of deficiency cases. Cattle on different farms subject to deficiency trouble were treated with phosphoric acid with benefit in some cases. The report of the special committee relating to this disease is appended separately.

Johne's Disease of Cattle: From time to time cases of this disease come to our notice and while it is not very widespread here as yet it is nevertheless of increasing importance in that it may become more widely disseminated if not checked. It is essentially a chronic infectious disease of cattle caused by a specific bacterium (Johne's bacillus) which in some respects resembles the germ of tuberculosis. The disease in affected animals is characterized mostly by a persistent diarrhoea with progressive unthrift and loss of condition associated with thickening and corrugation of the bowels. The germs are eliminated by affected cattle in their manure and infection results through contamination of the feed and water. Cattle can become infected either in the stable or while at pasture and the disease is usually first introduced into a clean herd by the purchase of an infected animal which at the time does not show any noticeable symptoms of the disease. Infection is also liable to be acquired by cattle while passing through the stock yards and at live stock exhibitions in some cases. After an animal becomes infected the disease may develop very slowly and no definite symptoms may be observed for from six months to a year or even longer at times. It is very desirable therefore to ascertain if some test can not be employed to detect early or latent cases as well as definite cases. For this purpose either the product known as Johnin may be used or else Avian Tuberculin. It would appear that both of these agents of test are of some value as diagnostic agents for this disease but unfortunately they cannot always be relied upon to furnish a definite reaction. Cases presented at the College clinic have been carefully studied and submitted to the different methods of test and laboratory examinations to confirm the diagnosis, and are fully described in a separate appended report.

Coccidiosis in Mink: Serious losses were reported as occurring on mink farms and we were appealed to for help. Investigation revealed the disease as coccidiosis of a very severe type. Due to the unusual nature of the outbreaks the disease was studied very thoroughly and a detailed technical report is appended separately for the benefit of those interested in diseases of this nature.

Bovine Hemoglobinuria: This disease is commonly known as Red Water in cattle. It occurs quite commonly in different parts of the country causing serious concern to some farmers through loss of condition and lessened milk production in cows. Owing to the conflicting opinions regarding the nature and cause of this disease it was selected as being deserving of further study. The results of our work on this disease indicate that in many cases it is due to an intestinal infection with an organism or germ closely resembling the *Clostridium welchii.* It was further shown that there are probably associated or predisposing factors which seem to render cattle more susceptible to the infection presumably traceable to soil conditions and the feeding of turnips and other roots grown on certain soil formations. A very comprehensive report of this investigation is appended separately.

Infectious Diarrhoea in Cattle: During the winter months cases of diarrhoea of varying intensity are not unusual among stabled cattle and the disease is commonly spoken of as "winter diarrhoea". Usually this disease occurs mostly as individual cases on different farms without seeming to spread to any great extent or become epidemic. However, this year alarming outbreaks of an unusually severe diarrhoea occurred suddenly and simultaneously at widely separated farms in different districts. Fortunately, in many of these mysterious or unusual outbreaks of diseases of this nature they seem to subside as suddenly as they appeared. At the same time they cause considerable alarm and concern to the owners of affected animals, and we gladly co-operated with the attending veterinarians in endeavoring to combat the trouble and to ascertain the specific cause. Investigation revealed that the diarrhoea was of an infectious character in that the disease could be reproduced experimentally by the administration of fecal matter as a drench. Laboratory examinations revealed a vibrionic infection in some cases but the findings were not uniform in all cases so that a definite statement as to the specific cause must be deferred.

Public Extension Service

This service has been promoted to furnish specialized clinical and laboratory assistance in the diagnosis, prevention and operative treatment of diseases in all classes of animals. It has been developed along such lines of usefulness as seemed to be most effective and desirable to those requiring specialized services and to furnish clinical and laboratory material for teaching and demonstration purposes in class work. It thus serves a twofold purpose and has also been made more or less self sustaining by making a nominal charge to cover any expense incurred where the service rendered is of an individual commercial nature. The nature and extent of the service rendered is brieflly summarized as follows:—

Animal Clinics: To these clinics animals of all kinds can be brought for special examination and operative treatment. They are held regularly on four afternoons of each week during the College session. The value and importance of these clinics to the community is clearly manifested by the large number of animals brought regularly for attention. During the year 1708 animals were selected for medical and operative treatment and the nature of the cases dealt with are summarized in the appended clinical report. It is readily apparent that a valuable medical and surgical service has been rendered to those in need of same.

Laboratory Examinations: The value of scientific laboratory examination is becoming increasingly important and in fact offers the only dependable means for the correct diagnosis of many diseases. During the year 2410 disease specimens were received for microscopic and bacteriological examination. Autopsies were made of 1910 poultry carcases belonging to individual owners reporting disease in their flocks. In each case a personal laboratory report of the results of the examination was sent to the one concerned with instructions as to the proper treatment and prevention of the disease in question.

Serological Tests: These are commonly known as blood tests and are becoming more widely used as the best method for diagnosing certain forms of disease. At the present time they are most frequently used for the diagnosis of Bang's disease in cattle (contagious abortion) and for pullorum disease (bacillary white diarrhoea) in fowl. For the diagnosis of Bang's disease 11,392 blood samples were received from veterinarians or their clients and submitted to the agglutination or blood test for *B. abortus* infection. Included in this number were 1079 pure bred cows intended for export to the United States. In addition 5,875 doses of *B. abortus* antigen (test fluid) were supplied to graduate veterinarians for the testing of herds under their supervision. These tests were made cooperatively with qualified veterinarians for clients whose herds they were supervising, on the understanding that the reacting animals would not be sold to enter clean herds and that their disposal would be regulated as follows:—

1. By segregation on the owners' premises pending their ultimate disposal.
2. Disposal by transferring them to positive herds on separate premises.
3. Disposal by slaughter ultimately at abattoirs under inspection.

For the diagnosis of pullorum disease in poultry 9887 blood samples were submitted to the agglutination test for this disease. In addition, sufficient of the pullorum antigen (test fluid) was prepared and supplied to graduate veterinarians to make over 55,000 additional poultry blood tests for their clients.

Preparation of Vaccines: To meet the wishes of those desiring to vaccinate their cattle for Bang's disease 2113 doses of killed culture vaccine were supplied to veterinarians at their request for use in herds under their supervision. At the request of the poultry department 50,000 doses of fowl pox vaccine were prepared and supplied to poultry breeding stations under their control. The details of these different services are included in the appended reports of the departments concerned. The increasing demand for these extension services creates a large amount of detailed routine work of a skilful nature, with an immense volume of correspondence, personal interviews for advice, and the preparation of test charts and laboratory reports covering the work. Throughout the year the entire staff has been kept busily engaged and each one has performed his work in a painstaking and diligent manner. A high standard of efficiency is being maintained in all departments and at a minimum cost to the province.

All of which is respectfully submitted.

C. D. McGILVRAY,
Principal.

Guelph, Ontario,

October 31st, 1933.

CLINICAL DEPARTMENT

The work of this department embraces the applied branches of veterinary medicine and surgery. All animals brought to the clinics are carefully examined, after which treatment is prescribed and operations performed as may be required. The cases are carefully selected and made use of to impart instruction to the students by means of lectures and special demonstrations. A list of the clinical cases relating to the different classes of animals are recorded under their respective headings, and a number of interesting conditions are embodied as special articles in the report.

HORSE CLINICS

Number of Animals	Nature of Case	Remarks
41	Dental Cases	
10	Elongated Molars	Molar-cutting operation
6	Caried Molars	Extraction
2	Diseased Molars	Propulsion by trephination
5	Fractured Molars	Extraction
3	Supernumerary Molars	“
15	Dental Irregularities	Floating and dressing
3	Pyo-sinusitis	Trephining operation
1	Dermoid Cyst	Operative treatment
1	Catarrh Lachrymal Duct	Antiseptic irrigation
17	Periodic Ophthalmia	Medicinal treatment
1	Eye Tumor	Surgical excision
2	Cataracts of the Eye	
2	Facial Paralysis	
1	Tongue Wound	Surgical treatment
13	Laryngeal Hemiplegia	Operative “
9	Poll Evil	“ “
1	Ear Infection	Antiseptic “
1	Esophageal Obstruction	Mechanical “
14	Fistulous Withers	Operative “
4	Serous Effusion (Withers)	“ “
36	Lameness	
2	Arthritis	Counter irritation
3	Tarsitis	“ “
4	Ring-bone	“ “
5	Spavin	“ “
3	Gonitis	“ “
2	Sesamoiditis	“ “
5	Sidebones	“ “
3	Coronitis	“ “
2	String-halt	Operative treatment
2	Coffin Joint Lameness	Counter irritation
3	Canker of the Foot	Actual cautery—astringents
3	Hygroma of the Hock	Operative and stimulative treatment
1	Hygroma Carpal	“ “ “ “
1	Hygroma Elbow	“ “ “ “
4	Fibroma	“ treatment
2	Exostosis	Actual cautery
1	Shoulder Deformity	
2	Quittor	Operative treatment
2	Curb	Counter irritation
1	Carpitis	“ “
3	Navicular Disease	“ “
1	Papilloma	Surgical excision
3	Shoulder Tumor	“ “
2	Cicatrix (Wire Cut)	“ “
2	Verrucose Dermatitis (Grease)	Actual cautery—astringents
1	Lymphangitis	Medicinal treatment

HORSE CLINICS—*Continued*

Number of Animals	Nature of Case	Remarks
6	Injuries	
2	Shoulder Injury	Antiseptic treatment
1	Luxation of the Patella	Reduction.
1	Leg Injury	Antiseptic treatment
1	Glans Penis Injury	“ “
1	Bruised Heel	Poultices—antiseptic
5	Wounds	Antiseptic treatment
3	Hoof Infection	“ “
6	Colics (Impaction and Indigestion)	Medicinal “
20	Influenza and Cough	“ “
1	Diarrhoea	“ “
1	Enteritis	“ “
1	Azoturia	“ “
1	Sterility	Sterility “
1	Nymphomania	Operative “
1	Scrotal Hernia	“ “
4	Umbilical Hernia	“ “
9	Castration	Surgical operation
4	Cryptorchidism	“ “
	Examination for Soundness	Student exercises
	“ Clinical	“ “
	Local and Regional Anaesthesia	“ “
	Point and Line Firing	“ “
	Inguinal Exploration	“ “
	Bandaging Technique	“ “
	Tenotomy “	“ “
	Neurectomy “	“ “
	Post-Mortem “	“ “
	Surgical Landmarks	“ “
	Administration of Medicines	“ “
	Restraint	“ “

CATTLE CLINICS

41	Sterility	Manual and antiseptic treatment
6	Dystokia	Manual handling
5	Retained Placenta	Manual and antiseptic treatment
12	Diagnosis of Pregnancy	8 Positive; 4 Negative
2	Parturient Paresis	Calcium treatment.
1	Post-partum Paralysis	Stimulative “
1	Mummified Fetus	Artificial abortion
20 herds	Agglutination Bleeding	Survey
7	Teat Tumor	Operative treatment
2	Tough Milker	“ “
1	Teat Obstruction	“ “
3	Supernumerary Teats	Surgical removal
3	Mammitis	Medicinal treatment
2	Chronic Mammitis	“ “
2	Atresia Teat Orifice	Operative “
1	Oedema of the Udder	Medicinal “
9	Calf Scours	“ and dietetic treatment
6	Necrotic Stomatitis	Surgical and antiseptic treatment
1	Glossitis	“ “ “ “
1	Sternal Abscess	“ “ “ “
2	Pharyngeal Abscess	“ “ “ “
1	Lung Abscess	
2	Intermandibular Abscess	Surgical and antiseptic treatment
1	Facial Abscess	“ “ “ “
1	Hip Abscess	“ “ “ “
2	Gastro-enteritis	Medicinal treatment

CATTLE CLINICS—*Continued*

Number of Animals	Nature of Case	Remarks
3	Lameness	Topical applications
1	Fracture of the Pelvis	
1	Fracture of the Horn	Antiseptic treatment
1	Vegetation (Corneal)	Surgical removal
1	Infected Sinus	Surgical and antiseptic treatment
1	Fatty Tumor	Surgical incision
2	Pharyngeal Granuloma	“ removal
2	Warts	“ “
2	Deformity of the Tail	“ correction
1	Scrotal Tumor	“ removal
1	Split Hoof	Antiseptic dressing
1	Abdominal Bruise	“ applications
1	Contracted Tendons	Operative correction
1	Brain Tumor	
2	Pyelonephritis and Cystitis	
1	Eczema	Medicinal and dietetic treatment
3	Actinomycosis	
1	Actinomycotic Tumor	Surgical removal
1	Cryptorchidism	Surgical operation
2	Chronic Digestive Ailment	
2	Johne's Disease	
20 herds	Tuberculin Test	Survey
1 herd	Hemorrhagic Septicemia	Investigational visit
1 “	Calf Scours	Consultation visit
	Restraint Technique	Student exercises
	Clinical Examination	“ “
	Administration of Medicine	“ “
	Intradermal Injections	“ “
	Caudal Injections	“ “
	Sterility Technique	“ “
	Bleeding for Agglutination	“ “
	Lung Abscess	Post-mortem examination
	Hemorrhagic Septicemia	“ “ “
	Gastro-enteritis	“ “ “
	Calf Pneumonia	“ “ “
	Rupture of Diaphragm	“ “ “
	Fracture of the Pelvis	“ “ “

SWINE CLINICS

5	Scrotal Hernia	Surgical operation
3	Hermaphrodism	“ “
3	Umbilical Hernia	“ “
8	Cryptorchidism	“ “
1	Scrotal Abscess	“ “
1	Ventral Hernia	“ “
1 lot	Rhinitis Infectious	Treatment advised
5 lots	Ascariasis	“ “
2 lots	Sarcoptic Mange	“ “
3 lots	Hemorrhagic Septicemia	“ “
1	Pleuro-pneumonia	Post-mortem examination
5	Ascariasis	“ “ “
2	Generalized Infection	“ “ “
1	Peritonitis	“ “ “
5	Anaemia of Sucklings	“ “ “
1	Dystokia and Heat Exhaustion	Manual handling and refrigerants

SHEEP CLINICS

Number of Animals	Nature of Case	Remarks
3	Pregnancy Disease	Treatment applied
3	Dental Cases	Dental treatment
1	Pneumonia	Medicinal treatment
3	Parasitism (Internal)	Parasiticides administered
1	Wry Neck	
5	Pregnancy Disease	Post-mortem examination
2	Hemorrhagic Septicemia	“ “ “
1	Gastro-enteritis	“ “ “
4	Parasitism	“ “ “
3	Generalized Infection	“ “ “
1	Pneumonia	“ “ “

SMALL ANIMAL CLINICS—DOGS

78	Ovariectomy	Surgical operation
7	Dystokia	Caesarian section
2	Mammary Tumor	Surgical incision
1	Peroneal Tumor	“ “
1	Prolapse Vagina	Operative treatment
2	Vaginal Tumor	Surgical removal
1	Infectious Vaginal Granuloma	“ “
2	Running Fits	Medicinal treatment
2	Dental Caries	Operative “
1	Gastritis	Medicinal “
1	Tonsilitis	“ “
1	Pharyngitis	“ “
3	Stomatitis and Pyorrhea	“ “
3	Distemper	“ “
4	Anal Pouch Infection	Antiseptic “
7	Eczema	Medicinal and topical treatment
2	Cataracts	
2	Corneal Opacity	Topical application
1	Conjunctival Tumor	Surgical removal
1	Corneal Tumor	“ “
1	Cranial Cyst	“ evacuation
2	Laceration of the Ear	Surgical treatment
2	Canker of the Ear	Antiseptic “
2	Goitre	Iodine “
3	Pharyngeal Abscess	Surgical “
2	Infected Ear	Antiseptic “
2	Eczematous Sores	Topical applications
3	Sarcoptic Mange	Parasiticides
2	Demodectic Mange	“
3	Taeniasis	Taeniacidal treatment
4	Ascariasis	Vermicidal “
7	Paraplegia	Stimulative “
1	Injury to Foot-pad	Surgical dressing
5	Supernumerary Claws	” removal
2	Injury to Legs	“ dressing
4	Long Toe Nails	“ excision
1	Injury to Hip	“ dressing
1	Abdominal Tumor	“ excision
1	Malignant “	
5	Caudal Amputation	Surgical operation
1	Retention of the Urine	Catheterization
5	Fractures	

SMALL ANIMAL CLINICS—DOGS—*Continued*

Number of Animals	Nature of Case	Remarks
2	Tibial Fractures	Surgical dressing
1	Mandible “	“ “
2	Femur “	“ “
4	Castration	“ operation
1	Orchitis	Medicinal treatment
10	Humanely destroyed.	
	Demonstration of Breed Characteristics and Conformation.	

SMALL ANIMAL CLINICS—CATS

12	Castration	Surgical operation
26	Ovariectomy	“ “
3	Taeniasis	Taeniacidal treatment
4	Ascariasis	Vermicidal “
1	Necrotic Enteritis	Medicinal “
3	Eczema	“ “
1	Necrotic Pharyngitis	“ “
3	Otodectic Mange	Parasiticidal “
2	Sarcoptic “	“ “
2	Wound	Surgical “
1	Epithelial Tumor	“ removal
1	Nasal Tumor	“ “
3	Dental Pyorrhea	“ treatment
1	Fistulous Tract	“ “
8	Humanely destroyed.	
1	Bilateral Empyema	Post-mortem examination
1	Peritonitis	“ “ “
1	Necrotic Enteritis	“ “ “

DEPARTMENT OF ZOOLOGY

The object of this department is to provide a course of lectures and dissections which will give the student a working knowledge of the subject, especially in its application to veterinary parasitology. The course has been extended during the past two years so that now there is time allowed for practical laboratory work and drawings. The instruction is given to the first-year students with the idea and hope that the knowledge will be a valuable adjunct to their understanding of veterinary science.

DEPARTMENT OF EMBRYOLOGY AND HISTOLOGY

As in previous years the course of instruction in embryology and histology is given to first and second-year students, the idea being to prepare the student for such important subjects as physiology, biochemistry and pathology. The subject of histology is well covered. All the important body tissues and organs are examined and studied by means of prepared sections and descriptive lectures. The student is required to make careful and accurate drawings. Due to the marked increase in the number of students there was need for an increased number of sections and in order to meet this need over one thousand new and additional slides were prepared.

MEAT INSPECTION

This course is delivered to students of the senior year and consists of lectures and demonstrations. It is conducted with the view of giving the graduate who enters general practice a comprehensive knowledge of the subject and also to prepare students for entry to the Federal Service under the Health of Animals Branch.

DEPARTMENT OF APPLIED PATHOLOGY

The routine work of this department has been carried on in much the same manner as in previous years and consists of examination of specimens of blood, tissue, organs, and lesions from animals dead of some condition or disease which the owner or some other interested person does not understand. Sometimes whole carcases or still living animals are sent to the laboratory. In all these cases various tests are carried out and often tissue is examined by microscope. In the case of parasitic invasion the parasite is identified and classified according to its species. A report of the findings is then forwarded to the person inquiring together with suggestions as to control and prevention of the trouble. Often the stock owner is advised to consult his local veterinarian. The resources of the department are at the disposal of veterinary practitioners, and it is gratifying to know that practitioners are taking advantage of this fact in increasing numbers. Over three hundred reports as to findings were mailed to owners and veterinarians during the past year. Because of the increase of students in the junior years there was need of a larger number of specimen sections required. These were prepared and our sets of diseased tissue were brought up to the required number. In many cases old sets were discarded, new and better ones being prepared.

Nature of Case	Cattle	Sheep	Horses	Swine	Dogs	Cats	Rabbits	Fowl	Fox	Mink	Ferret	Total
Tuberculosis	4	......	......	3	......	......	......	1	......	......	......	8
Neoplasms	5	......	7	1	24	......	......	3	1	......	......	41
Pneumonia	5	4	2	7	3	......	1	1	5	6	......	34
Parasites	......	10	2	12	23	4	11	......	6	2	......	70
Enteritis	2	2	1	6	1	2	......	......	4	3	......	21
Abscess	1	......	2	1	......	......	2	......	......	......	2	8
Peritonitis	......	......	......	2	......	......	1	......	......	......	......	3
Nephritis	1	......	......	1	......	......	......	......	1	......	......	3
Tissue from Operations	......	2	8	......	5	......	......	......	......	......	......	15
Hemorrhagic Septicemia	8	6	......	7	......	......	3	......	......	......	......	24
Gastritis	......	......	......	6	3	1	1	......	3	2	......	16
Food Poison	......	......	......	......	......	......	1	......	1	8	......	10
Abortion	5	......	......	......	......	......	......	......	......	......	......	5
Anemia	......	......	......	5	......	......	......	......	......	......	......	5
Pericarditis	......	1	......	6	......	......	......	......	......	......	......	7
Mastitis	10	......	......	......	......	......	......	......	......	......	......	10
Sterility	3	......	2	......	......	......	......	......	......	......	......	5
Swamp Fever	......	......	13	......	......	......	......	......	......	......	......	13
Hepatitis	2	4	2	2	1	......	......	2	2	......	......	15
Actinomycosis	3	......	......	......	......	......	......	......	......	......	......	3
Examination of Pus	4	......	5	......	4	......	......	......	......	......	......	13
Meat Inspection	5	1	......	7	......	......	......	......	......	......	......	13
Miscellaneous	10	3	6	4	8	1	3	......	8	4	......	47
Total	68	33	50	70	72	8	23	7	31	25	2	389

DEPARTMENT OF PARASITOLOGY

The work of this Department is summarized under the following headings:—

Tutorial.—The regular course in parasitology has been given to second, third and fourth year students. Third year classes have received laboratory instruction in general pathology, and assistance has been given in lecturing and demonstrating to classes taking the usual courses in histology, embryology and zoology.

Routine.—Under this heading the work has been conducted in collaboration with the Department of Pathology. It has consisted of the examination of parasitized and diseased material and the preparation of slides and museum specimens for class instruction.

Research.—A series of experiments were made to ascertain if any practical use could be made of electricity in agglutination tests. The results were negative.

A number of pasture invertebrates were fed the eggs of the sheep tapeworm, *Moniezia expansa*, in an attempt to find an intermediate host for this parasite. The tapeworm larvae became extremely active and escaped from the ruptured eggs into the intestines of larval dung and adult ground beetles. In slugs and millipeds the embryos were digested or the eggs passed through the alimentary canal unchanged.

An outbreak of coccidiosis in an Ontario minkery was investigated. As this appears to be a hitherto unreported disease in the Province the results of the investigation are submitted separately under the following title:— "Coccidiosis in Mink".

MILK HYGIENE, POULTRY DISEASES AND SEROLOGY

During the year ending October 31st, 1933, the work conducted may be summarized under the following headings:

Teaching.—A course of lectures and practical work in milk hygiene was given to the fourth-year class. This course included visits to dairies and dairy farms and the bacteriological and chemical examination of samples of milk submitted for analysis. A course of lectures in poultry diseases was also given to the fourth-year class, and owing to the ample material received it was possible to make this course a practical one by having the students conduct ante-mortem and post-mortem examinations and make bacteriological examinations where necessary. Certain phases of the courses were studied on up-to-date poultry farms. Assistance was also given in instruction in laboratory bacteriology to the third and fourth-year classes.

Preparation of Biological Products.—Fifty-five thousand test doses of *S. pullorum* antigen, and positive and negative control sera were distributed to veterinarians for the agglutination test for *S. pullorum* infection. Five thousand, eight hundred and seventy-five test doses of *Br. abortus* antigen were also sent out for use by veterinay surgeons. Fifty thousand doses of fowl-pox vaccine were prepared for use in the control of fowl-pox in the Breeding Stations under the supervision of the Department of Agriculture of Ontario. It is gratifying to note that each year more veterinarians are qualifying themselves to conduct the agglutination test for *S. pullorum* and *Br. abortus* infection. In addition to the instruction offered at the usual conferences at the College, instruction in performing these tests has also been given at other times by appointment.

Routine Examination of Specimens.—This work is increasing enormously and occupies the major part of the time. It consists of the routine examination of samples of fowl and cattle blood, and the bacteriological or such other examination as required of other specimens. As in the previous four years the only fowl bloods examined were from the Poultry Husbandry Department of the Ontario Agricultural College, and breeding stations under the supervision of the Department of Agriculture. Testing for others was carried out by certain practitioners to whom are supplied the necessary antigen and control sera.

BLOOD SERUM EXAMINATIONS

Animal	Disease	Number of Samples Received	Positive	Suspicious	Negative	Unfit for Testing
Fowl	*S. Pullorum* infection..	9,887	100	....	9,787	....
Cattle	Infectious abortion..	11,392	1,911	732	8,636	113

SYNOPSIS OF EXAMINATIONS IN CONNECTION WITH POULTRY DISEASES

From November 1st, 1932, to October 31st, 1933.

Condition or Disease	Nov.	Dec.	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Total
Adult Pullorum Infection........	5	9	10	9	17	8	3	2	4	2	2	8	79
Ascites	......	1	......	......	......	1	......	......	......	......	1	......	3
Avian Diphtheria	1	2	......	......	1	1	......	1	2	......	......	......	8
Cloacitis	1	......	......	......	1	......	......	......	......	......	......	......	2
Coccidiosis	1	......	......	......	......	6	29	122	41	32	5	3	239
Colds and Roup........	4	......	4	......	1	......	......	4	5	4	1	4	27
Enterohepatitis (turkeys)	3	2	1	1	......	......	5	3	1	3	1	1	21
" (chicken)	......	......	......	......	......	......	5	8	3	......	1	2	19
" (other birds)..	......	......	......	......	......	......	......	......	......	......	......	1	1
Fowl Cholera	1	4	5	......	3	......	......	......	......	9	3	4	29
Fowl Typhoid	1	1	......	......	......	......	......	......	......	......	......	......	2
Laryngotracheitis	3	5	8	6	1	......	2	......	......	5	......	2	32
Leucosis	8	7	10	6	3	......	......	......	......	......	......	1	35
Pneumonia	......	......	......	2	13	3	1	3	1	......	......	......	23
Pullorum Disease of Chicks....	......	......	......	......	33	165	156	39	24	2	......	......	419
Tuberculosis	5	9	4	9	11	2	4	1	4	4	1	5	59
Other Infections	4	2	3	2	6	......	5	10	2	5	8	10	57
Cannibalism	......	......	......	......	1	......	......	......	......	......	1	......	2
Egg bound and Yolk Concretions	2	1	1	3	4	2	1	2	......	1	......	1	18
Enteritis	4	4	5	4	1	......	4	9	1	3	10	7	52
External Parasites	......	......	......	2	......	......	......	......	......	......	......	......	2
Fatty Degeneration and Infiltration	......	1	......	2	......	......	......	......	......	1	......	......	4
Impaction of Crop........	2	4	4	1	......	......	1	......	......	......	1	......	13
Injuries	......	2	1	1	1	......	......	3	1	1	......	3	13
Nutritional Ailments	12	6	4	4	9	14	13	26	23	13	27	11	162
Prolapse	......	......	......	......	......	1	......	......	......	......	......	......	1
Ruptured Liver	1	1	1	1	......	1	......	......	......	......	......	1	6
" Oviduct	......	......	......	......	1	......	......	1	1	......	......	......	3
Tumours	11	9	8	7	5	3	4	1	2	3	......	3	56
Visceral Gout	1	1	1	1	......	2	......	1	1	......	......	1	9
Worms (round)........	5	10	9	9	19	5	2	11	16	5	15	11	117
" (tape)	25	15	20	30	13	18	5	9	4	12	32	22	205
" (round and tape)......	10	6	12	......	7	3	5	3	......	6	14	10	76
Putrid and not diagnosed........	7	7	5	2	6	13	36	12	12	10	3	3	116
Totals	117	109	116	102	157	248	281	271	148	121	126	114	1910

MISCELLANEOUS EXAMINATIONS

Milk and Cream	87
Eggs	12
Water	2
Blood	3
Pleuritic Fluid........	2
Rabbits	4
Sheep	1
Total	111

DEPARTMENT OF BACTERIOLOGY AND PATHOLOGY

The work carried on in this department may be conveniently considered under the following headings: Tutorial, Routine, Research, and Investigatory.

Tutorial.—In both lectures and laboratory work the fundamental facts of the sciences being studied by the student are, as far as possible, presented in a manner which makes them something more than data to be memorized and stored in isolation until the day of examination and then forgotten. The methods employed in teaching have as their objective the awakening and development of the mind, more than the memory, and the unification and synthesis of the knowledge acquired rather than the unprofitable accumulation of isolated facts.

Routine.—The routine work of the laboratory consists chiefly in the diagnosis of diseased tissues, the making of post-mortem examinations, and the preparation of the abortion bacterin.

Research and Investigatory.—Most of the work of this nature which has been undertaken during the year is described in special articles submitted under the following titles: Bovine Hemoglobinuria and Infectious Diarrhoea in Cattle.

REPORT OF THE COMMITTEE MAKING A SURVEY OF MINERAL DEFICIENCY DISEASE IN CATTLE FOR THE YEAR 1933.

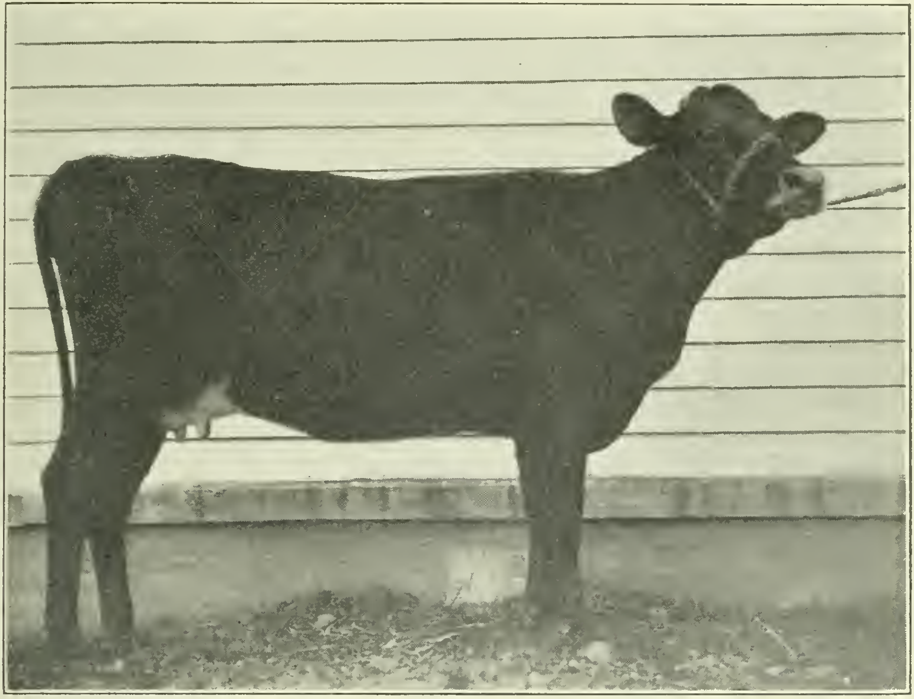
R. A. McIntosh, M.D.V., B.V.Sc.

During the year 1931 and 1932 the committee in charge of this work made a fairly complete survey of that part of the province known as old Ontario. It was determined that the condition is more or less widespread throughout old Ontario and also that in certain localities the incidence of mineral deficiency is quite marked. In the investigation and study of this problem it was felt that the element phosphorus was the chief mineral lacking for the manifestations observed in affected cattle were those of aphosphorus. The collection of samples of hays and grains used as food for animals and their subsequent analysis revealed that in certain areas the lack of phosphorus was quite significant. In accordance with these findings the committee determined to conduct a few small experiments in connection with the work.

One of these experiments was to procure hay and grain from a known deficiency area and feed it to a young pregnant cow of the dairy type. A sufficient amount of food was obtained to feed the cow about seven months, that length of time corresponding to the average stable feeding in most dairy herds. It consisted of threshed blue grass hay and oats and barley for grain. This diet is not a balanced ration but is representative of diets provided for cows during the winter months in some instances. The cow used in the experiment was a crossbred Jersey 3½ years old. She had produced one calf and passed through one lactation period. She was pregnant at the time of purchase and due to calf six weeks later. She was bright, active and in a good state of nutrition at the commencement of the feeding experiment. During the time she was on the ration she was weighed monthly and blood samples were taken for calcium and phosphorus determinations. On occasions her milk was weighed and butter fat tests applied. She was subjected to the Tuberculin and Bang's disease tests and was negative to both.

On January 16th the feeding experiment was commenced and the following table indicates some of the observations made.

Date	Weight	Calcium Mgr. per 100 c. c. blood serum	Phosphorous Mgr. per 100 c. c. of blood	Weight of milk	Butter fat test	Miscellany
Jan. 16	890 lbs.	10.88	6.02			
Feb. 17	972 "	10.80	5.69			
" 22	850 "					Feb. 19—
Mar. 22	794 "	10.70	4.09	38¼ lbs.	3.3	(calved
Apr. 17	772 "	11.34	3.75			Estrum—cow
May 17	727 "	10.05	5.48	22 lbs.	2.8	(bred
June 14	690 "	10.58	7.15		3.	
July 12	710 "	10.99	6.17			
Aug. 9	690 "	11.34	3.75	16 lbs.	3.8	Pregnancy diagnosed.

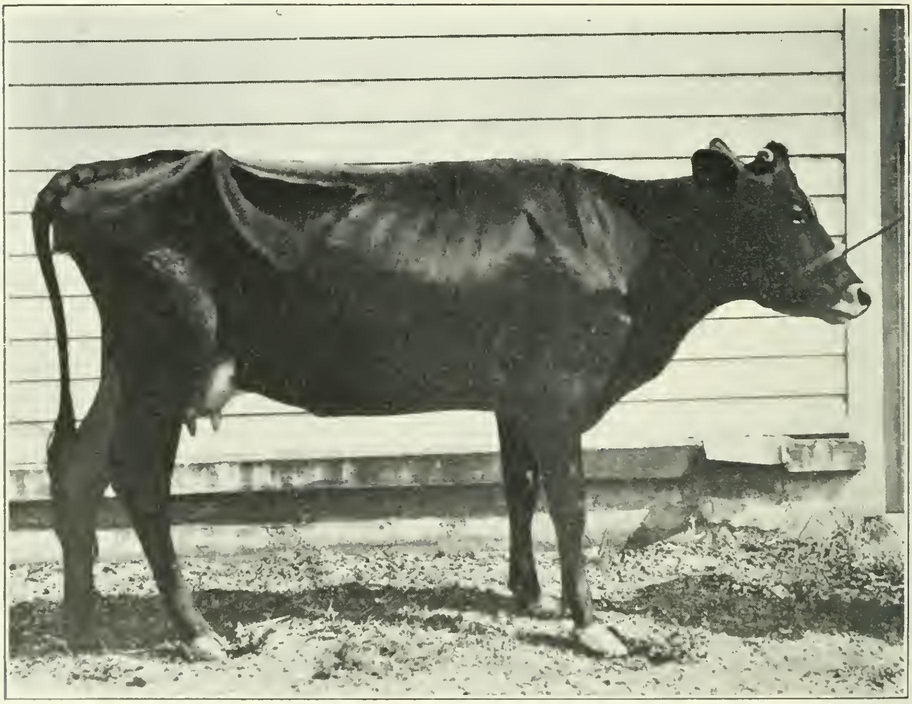


Appearance of cow at the commencement of the feeding experiment.

While on the feeding experiment she was provided with all of the hay she would eat. The oats and barley were ground and mixed in the ratio of 2 to 1. She was fed liberally on the grain mixture but ultimately she would only partake of a certain amount. The feed was consumed by August 9th. In reference to the above table a shrinkage of 120 lbs. occurred at calving time. From that time to the completion of the experiment her weight gradually declined. There was a steady decline in the blood phosphorus determinations until she conceived when it quite suddenly increased but again it started to decline and at the last analysis was down to 3.75. No explanation is offered for the sudden increase in the blood phosphorus but it is suggested that conception may have been responsible. During pregnancy metabolism is modified and the elements required for fetal development are marshalled to meet with the demands of the active uterus. Depravity of appetite did not occur, neither was there any evidence of stiffness. The most marked changes observed occurred in the general appearance and spirit of the animal. From a cow bright in appearance, full of life and in fair flesh she became dull, listless and thin, as indicated in the picture. Subsequently she was allowed on grass at which time she improved somewhat and during this time she must have aborted for on October 8th she came in estrum and on examination her uterus was found to be non gravid. Again no explanation is offered for the abortion but since she was negative to the Bang's Disease test and apparently free from genital infection it is suggested that the feeding experiment may bear some relation to it.

Nothing is proven by this experiment but a great deal of benefit is derived from it for it reveals the effects and results of a limited ration. The ration supplied for this cow compares favorably with many and is an improvement on some which the investigating committee learned of during the survey. When it is realized that many farm animals are put through the stable feeding periods on rations which are not any more comprehensive or varied in character than this one it is not surprising that many of them manifest evidences of deficiency.

Another experiment applied on a farm in Wellington County where phosphorus deficiency recurs with relative frequency was as follows. Three cows were chosen and dilute phosphoric acid was provided to be fed to these animals over a period of 5 months from January 1st to May in which month they are usually turned out to grass. The reason for using dilute phosphoric acid is that it is a simple means of providing the element and also because in the treatment of affected animals it seems to correct stiffness and depravity of appetite rapidly. It was felt that the continued use of the acid over the stable feeding period might offset the tendency to a deficiency of the element and provide for a reserve of it. The cows selected were animals in which a deficiency was most likely to occur. Two of them had just freshened and were milking well. The other one was pregnant and due to calf shortly after the commencement of the experiment. Apart from the provision of phosphoric acid these animals were fed the same varieties of food and in the same manner as the remainder of the herd. Blood samples were taken for calcium and phosphorus deter-



Appearance of cow at the conclusion of the feeding experiment.

minations at the beginning of the experiment and on three subsequent occasions during the course of the experiment. For comparison blood samples were taken of a few of the other members of the herd as well.

On another farm in Bruce County a farmer who had experienced deficiency troubles for some years was also supplied with dilute phosphoric acid and instructed to feed it to three of his cows. Only one calcium and phosphorus determination was made in this herd and that one at the conclusion of the acid feeding experiment.

The following table indicates the analyses made on the animals used in the foregoing experiment.

WELLINGTON COUNTY FARM

Date	Name of Animal	Calcium Mgr. per 100 c. c. of blood serum.	Phosphorous Mgr. per 100 c. c. of blood.	
Dec. 29/32	Darkey	11.35	3.64	
“ “	Flossie	11.81	2.96	
“ “	Edith	11.72	2.82	
Mar. 22/33	Darkey	11.7	2.82	Treated cow
“ “	Flossie	11.81	2.24	“ “
“ “	Edith	11.5	1.86	“ “
“ “	Spotty	10.3	3.20	Untreated cow
“ “	Hazel	....	2.72	“ “
May 22/33	Darkey	11.47	4.51	Treated cow
“ “	Flossie	11.25	5.31	“ “
“ “	Edith	12.83	3.40	“ “
“ “	Spotty	12.31	5.32	Untreated cow
“ “	Hazel	11.47	4.58	“ “
“ “	Jersey calf	11.05	8.98	Untreated calf
June 23/33	Darkey	13.54	3.58	Treated cow
“ “	Flossie	15.41	3.31	“ “
“ “	Edith	14.27	2.77	“ “
“ “	Spotty	14.58	2.55	Untreated cow
“ “	Hazel	14.06	2.56	“ “

BRUCE COUNTY FARM

May 12/33	Lily	13.65	3.52	Treated cow
“ “	Hawthorn Girl	11.98	5.78	“ “
“ “	“ Lass	12.50	4.	“ “
“ “	Mysie	13.03	2.93	Untreated cow
“ “	Claret	11.77	3.78	“ “
“ “	Whitey	11.77	3.72	“ “

The results of these analyses are disappointing for in the total very little difference is revealed between those animals which received the phosphoric acid and those which were untreated. The owners, however, both indicated that these cows milked better and felt better than the others and after they were turned out on the pasture they did not show signs of depravity of appetite while some of the others did.

There is a growing belief amongst investigators of aphosphorous conditions that it is the cause of or favours the occurrence of functional sterility. A remarkable illustration of this was observed in the Wellington County herd referred to in this article. At the time of the March visit the owner complained of the fact that two of his cows were not manifesting heat. Both of these animals were examined and a retained corpus luteum was found in both cases. On other occasions estrum occurs but the animals fail to conceive. When estrum occurs the cows probably ovulate but the ovum may not be capable of fertilization and thus the failure to conceive. The reproductive rate is always slowed down considerably in aphosphorus herds and the coincidence is too marked to disregard the lack of this element as being a factor in the occurrence of sterility.

The work of the committee in the investigation of this problem has extended over a period of three years. It is admitted that many phases of the problem have not been completed but a vast amount of information has been gained and many facts regarding it have been established. From the compiled data certain features are worthy of recapitulation.

1. The analyses of feeds very definitely indicated that repeated cropping has brought about soil depletion which is reflected in the grains and fodder produced.

2. That in many instances there is a lack of variety in the rations provided for cattle during the winter feeding operations. The greatest error in this respect is the lack of phosphorus carrying foods. The amount and quality of the food may be quite adequate but it lacks in bran, oilcake and other phosphorus rich ingredients which are so necessary to meet the requirements of the animal body.

3. There are pasture deficient areas also in which the condition may develop while the animals are grazing, the occurrence of which is more marked in exceptionally dry seasons. In these areas greater attention will have to be given to the fertilization of the soil.

4. The necessity of live stock men purchasing bonemeal or mineral supplements to the diet may be greatly offset or possibly entirely eliminated by the provision of foods rich in phosphorus.

5. Cows that are exceptionally good milk producers should be given special consideration regarding their diet for unless this is done they may continue to secrete large quantities of milk at the expense of their body resulting in the depletion of their mineral reserves.

JOHNE'S DISEASE OF CATTLE

R. A. McIntosh, M.D.V., B.V.Sc.

During the past few years, through the medium of the College clinic, a number of cases of this disease have come under observation. Because of its increasing prevalence it is felt that reference to the disease in this report would be of value.

Johne's disease is also known as paratuberculous enteritis and also as chronic specific enteritis. It is a markedly chronic communicable disorder of cattle characterized by thickening and corrugation of the intestinal mucosa. Ultimately the disease manifests itself by a severe, more or less periodic diarrhoea, and a progressive loss of flesh. Along with these phenomena, there may be observed a pronounced reduction in the milk yield, a staring, dull hair coat, anemia, and terminal cachexia.

The disease is caused by an acid-fast organism closely resembling the tubercle bacillus. It is known as the mycobacterium paratuberculous (Johne's bacillus). The organism is difficult to culture and aberrant strains are frequently observed. According to some workers there appears to be a close relationship between this organism and the avian tubercle bacilli. The fact that avian tuberculin may be used as a diagnostic agent for Johne's disease is significant of some definite relationship between these two organisms.

Natural infection undoubtedly takes place through the digestive tract as a result of the consumption of contaminated food and water. In the animal body the habitat of the organism is in the diseased intestinal mucosa and the associated mesenteric lymph glands. In the diseased areas of the gut it is found in large numbers where it shows a tendency to clump. Microscopically the tissue reaction is somewhat similar to those occurring in tuberculosis without necrosis or caseation. Macroscopically the diseased gut appears enormously thickened and in long standing cases is of a dark greyish colour with a milky mucoid exudate over its surface. The caecal mucosa usually manifests the more gross lesions.

The disease is quite prevalent in European countries including England and the Channel Islands. In the United States it is becoming more prevalent. In Canada the occurrence of it is becoming more frequent. In its nature the disease is very insidious, for many months, even years, may elapse between the time of infection and the obvious manifestation of it. The insidious character and chronicity of the disease favor the spread of the infection, for carrier animals may be bought and sold, be transported from one herd to another, without those concerned in the transaction having any knowledge of the fact that such an animal is a source of danger for other members of the herd in which it may be placed.

Because of the fact that many cases of the disease appear in relatively young cows it is felt that in many instances the affected animals contract the infection while they are quite young (as calves). The first distinctive symptom is a chronic diarrhoea or repeated periodic attacks of it. On occasions during the latter stages of pregnancy the diarrhoeic condition disappears somewhat, only to be followed by a more violent manifestation following parturition. There is no fever, the appetite usually remains good but there is an increasing emaciation finally terminating in anemia and cachexia.

The diagnosis of the disease in its later stages may be accomplished by clinical observation. In some instances by microscopic examination of stained smears of scrapings from the rectal mucosa in which clumps of acid-fast bacilli may be found. There is also an allergic test in which Johnin, a preparation obtained from cultures of the bacillus is used. Avian tuberculin preparations are also used for this purpose.

The following report is typical of the disease.

Clinic No. 560.—The patient was a young Jersey cow not quite 3 years of age in lactation.

The attendant had noticed periodic occurrences of diarrhoea while she was on pasturage. She was then stabled and provided with hay and grain. After a short time improvement occurred. Subsequently she was turned out again but diarrhoea recurred. Again she was stabled and while some improvement could be observed at the same time diarrhoea persisted, she lost flesh and dropped in her milk secretion. When submitted to the clinic after eliminating other possible causes for the condition a clinical diagnosis of Johne's disease was made. Stained smears of scrapings from the rectal mucosa were obtained and many acid fast bacilli similar in appearance to the Johne's bacillus were found. It was then decided to apply a Johnin test. Accordingly Johnin was obtained from a commercial biological house. This product is administered in 5 c.c. doses intravenously. Her pre-injection temperatures were 100.6, 101.4, 101.4. After the injection hourly temperatures were as follows: 102.1, 102.2, 102.1, 102.4, 102.6, 102.8, 102.8, 102.8, 102.8, 103, 102.6. This temperature chart is not conclusive but would be considered suspicious.

Through the courtesy of Dean W. A. Hagan of New York State Veterinary College a sufficient amount of an avian tuberculin which he and his co-workers have been using as a testing reagent for Johne's disease was procured to retest this animal. The test was applied two weeks later and on this occasion a very definite temperature reaction was obtained indicated by the following chart. Her pre-injection temperature was 102. Hourly temperatures following the injection of 15 c.c. of this diagnostic agent were 102.2, 102.9, 103.2, 103.7, 104.4, 105.5, 105, 104, 103.4, 102. In addition on this occasion she manifested clinical evidences of reaction such as chill, inappetance and marked diarrhoea.

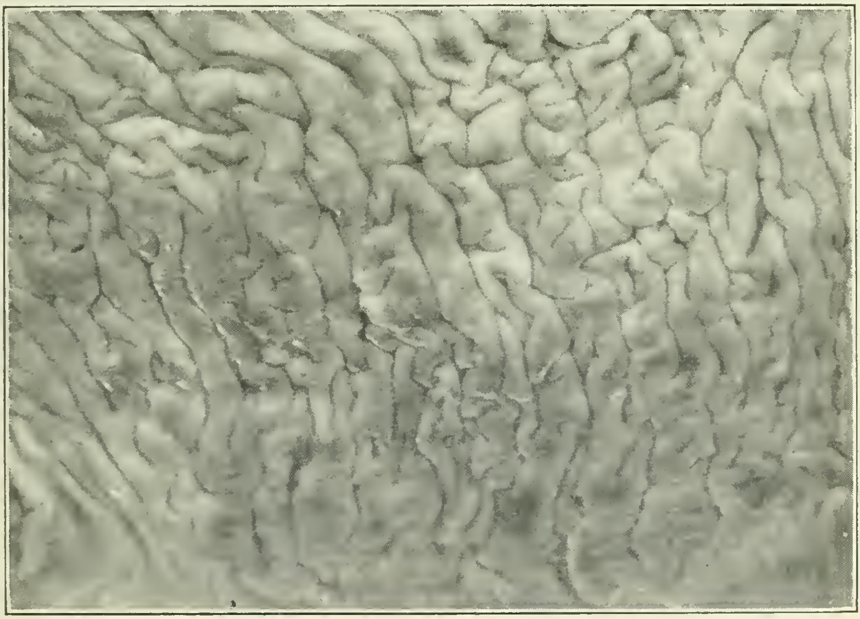
The post-mortem examination of this animal revealed a thickened and corrugated intestinal mucous membrane, particularly in the caecum and to a lesser degree in the ileum. Stained smears from the mucosa showed many acid-fast bacilli. A quantity of this testing reagent was procured and a number of animals in the herd from which this animal came were tested with the following result.

Animal No.	Pre-injection Temperature	Post-Injection Temperature							
		1 p.m.	2 p.m.	3 p.m.	4 p.m.	5 p.m.	6 p.m.	7 p.m.	9 p.m.
1	101.6	102	101.8	101.7	100.8	100.5	....	100.4	....
2	101.6	101.6	101.6	101.9	101.7	101.4	....	101.4	....
3	101.4	101.8	101.8	101.9	100.6	101.1	....	101.2	....
4	101.5	101.6	102	102.2	102.1	102.7	103	105	104.6
5	102.2	102.2	102.3	102.6	102.4	102	....	102.2	....
6	100.4	101.7	101.8	101.8	101.8	101.4	....	101.2	....
7	101.8	101.7	101.6	102	102	101.9	....	102	....
8	101.6	102.3	102.2	102.4	102.1	102.8	....	102	....
9	101	101.3	102.2	101.5	101.9	101.5	....	101.5	....

Cow No. 4 gave a positive temperature reaction and at 3 p.m. when the cattle were fed she refused to eat, her hair was rough, she had muscular tremors, was off in her milk supply and at 7 p.m. diarrheic. The following morning her temperature was normal but she continued diarrheic for 3 days. Prior to this occasion the attendant had never noticed diarrhea or any other clinical manifestation of the disease except that her coat was not as good as other members of the herd.

Johnin and other testing reagents are not reliable, particularly in advanced clinical cases but their use is advisable for if reactions occur they assist in confirming other diagnostic features. Some workers claim their reagents are more reliable when applied to insipient cases. It is to be hoped that some reliable agent may be developed for this purpose to enable the recognition of the disease in its early stages.

Because of the increased interchange of cattle nowadays there is a great likelihood of this disease becoming quite widespread. It is incumbent upon the veterinary profession and the live stock men to acquaint themselves with this condition and to use such measures as are available to at once control any outbeaks of it occurring.



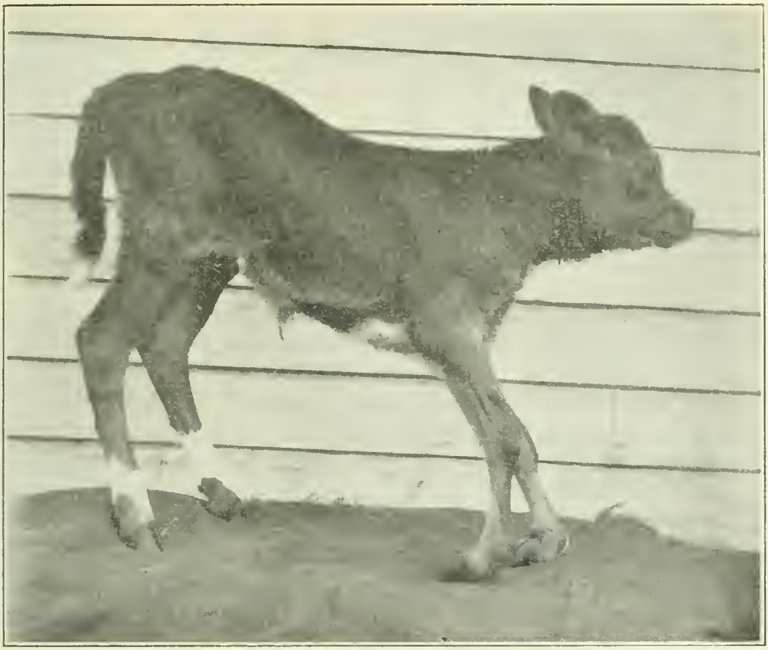
A portion of the mucous membrane of the caecum showing the thickening and corrugation. From a cow affected with Johne's disease.

CONGENITAL DEFORMITY IN A CALF

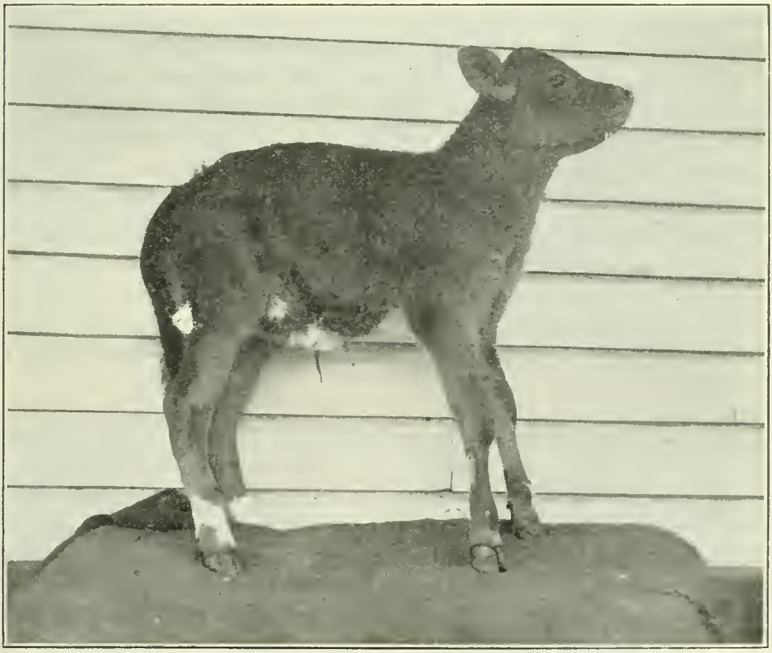
R. A. McIntosh, M.D.V., B.V.Sc.

The following report and accompanying illustration are in reference to a valuable Jersey calf submitted to the College Clinic for attention. The calf was ten days old, bright, in good spirits and thrifty but incapable of properly extending the phalanges of both front feet. Owing to extreme volar flexion weight was carried on the front of the hoof and the fetlock region when the calf was standing. Mild cases of this nature are not uncommon in newly born calves but extreme cases such as this one are rather rare. The deformity is probably of more frequent occurrence in foals. It is a form of talipes (club foot) such as is seen in human beings. In veterinary science some claim it is due to a contraction or shortening of the flexor tendons. Williams' Obstetrics indicates that in some instances there is a congenial rupture of the extensor tendon. The flexors are then without opposition and the foot is drawn into a flexed position and develops in that form.

In this instance the deformity was so marked that there was no hope of bringing about a correction of it without tenotomy. Accordingly the flexor tendons were both severed at about the middle of the cannon bone and the foot forcibly extended. The foot and the leg were then supported by the use of a galvanized iron splint formed to pass under the foot, over the front of it and up the front of the leg to which it was firmly bandaged with adhesive tape. At the end of one week the splints were removed and new ones put on which extended up the back of the leg and again were held in position with bandage and tape. At the end of two weeks these were taken off and the legs were left without any support. The calf made a good recovery.



Contracted tendons in the calf before operation.



Appearance of the calf one month after the operation.

COCCIDIOSIS IN MINK

A. A. Kingscote, B.V.Sc.

Coccidiosis in mink is an enzootic or, less frequently, a sporadic disease which occurs chiefly in young animals following infection with Coccidia of the genera Isospora or Eimeria; these invade the epithelial cells of the small intestine. The disease manifests itself by haemorrhagic diarrhea, anaemia, progressive emaciation and paralysis.

Historical.—The disease in mink has apparently only been recognized as a potential cause of loss within the last few years. Coccidia in such closely related animals as the weasel and ferret had, however, been previously noted. In 1898 Labbé recorded a species which he described as a variety of *Coccidium perforans* from the weasel. Hoare in 1927 recorded three new species from ferrets, *Isospora laidlawi*, *Eimeria ictidea* and *Eimeria furonis*. Since 1930 numerous losses caused by Coccidia in widely separated countries where mink are raised rank the disease they produce as one of the most serious disasters which may occur in a ranch. Three years ago Sprehn and Hiedigger in Germany and Ullrich in the Czechoslovakian Republic reported outbreaks of coccidiosis. Heidigger ascribed fatal cases of enteritis to an organism corresponding in size to *Isospora rivolta*. In 1931 Grini records further losses in Europe; Van Es mentions the occurrence of the disease in Nebraska; Riley and Christenson of Minnesota refer to a species of Isospora causing a highly fatal disease to young mink. In 1932 Hanson, in New York State, reports that ranch-raised and wild mink are infected with *Isospora bigemina* which proves very troublesome in minkeries and has been responsible for heavy losses amongst mink kittens. In the same year Grunert encountered several outbreaks of coccidiosis in Alberta, Canada, in which cases the animals were infected with both Eimeria and Isospora. During the past year (1933) Grini again refers to the disease stating that infection with an unnamed species of Eimeria produces what may be regarded as the most serious of mink diseases.

In the summer of 1933 our attention was first attracted by Welbank to the occurrence of an enzootic disease in an Ontario minkery which before it was checked caused the death of many young animals and some adults, leaving the survivors stunted and of little pelt or breeding value. This outbreak was subsequently diagnosed as coccidiosis caused by a small species of an Eimeria, a description and the life cycle of which is included in this report.

Occurrence.—The disease occurs most frequently in the summer and early fall months; most of the fatalities commence in June and continue until September. It is equally prevalent in dry and wet seasons. Unless the strictest sanitation is practised in ranches it soon spreads from pen to pen. It occurs amongst animals both on earth and board floor pens but not to any extent where wire-bottomed pens are used. Kittens and females are the most susceptible. The Coccidia exist in widely separated minkeries both in the Old and the New World. Faecel examinations show that many animals are carriers but show no ill effects from the infection.

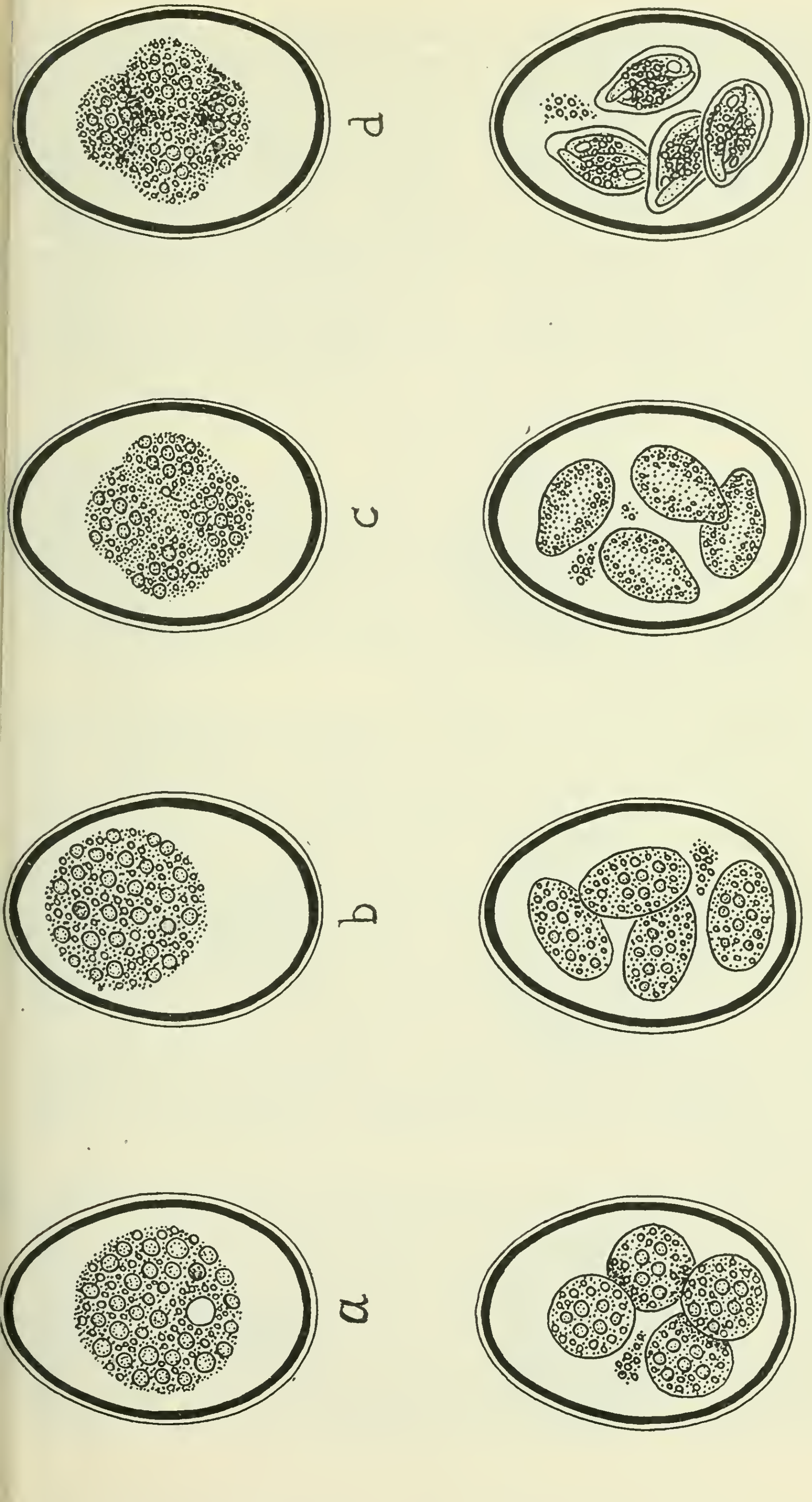


FIG. 1.—*EXTRACORPOREAL DEVELOPMENT OF EIMERIA MUSTELAE. a, b*—Oocysts with unsegmented zygotes; *c, d*—segmentation of zygote; *e, f*—separation of the four sporoblasts, formation of sporocysts and oocystic residual bdy; *g, h*—development of the eight sporozoites and sporocystic residual body. (Original).

Etiology.—The various stages of the protozoans occur chiefly in the mucosa of the small intestine and the oocysts in the faeces. It is recognized that at least three species of Coccidia may give rise to the disease. Two of these belong to the genus Isospora, the oocysts of which may be easily recognized by keeping them a few days in water or a 2.5 per cent. solution of potassium bichromate, at room temperature; when sporulation is complete only two sporoblasts are formed. These two species in size closely resemble *Isospora bigemina* and *Isospora rivolta* of the dog and cat. The third species is an Eimeria which may be distinguished from Isospora by the formation of four instead of two sporoblasts. It is extremely small and unless fecal material or intestinal scrapings are carefully examined may be easily overlooked under a magnification of one hundred diameters. A description of this Eimeria, some of the oocysts of which were obtained in Ontario and others, for comparison, from Saratoga Springs, New York, and from Fort Saskatchewan, Alberta, is as follows:

The oocysts are found in large numbers in the faeces of infected animals; they are oval or egg-shaped in outline and measure from 17.0 to 22.1*u* in length by 9.0 to 18.0*u* in breadth; their average dimensions are 20.3 by 14.6*u*. The wall of the oocyst consists of two layers, a thin colourless outer membrane and a thick yellowish-brown inner layer. The average thickness of the wall is 0.75*u*. No micropyle is discernible. The zygotes in freshly passed oocysts are spherical or slightly oval with an average and fairly constant size of 12.0 by 9.0*u*. They are situated in the centre or at one extremity of the oocysts.

When placed in 2.5 per cent. solution of potassium bichromate at room temperature sporulation continues from the second to the eighth day. It is, however, not until the seventh day that the majority of the zygotes commence to divide. A small granular residual oocystic body is often present after the completion of sporulation. The sporocysts, of which there are four in number, are at first spherical, then oval and finally pear-shaped in form with the fairly constant measurements of 10.0 by 5.5*u* in the last stage. On about the tenth day after the passage of the oocysts from the host two sporozoites become perceptible within each sporocyst; these are 9.1*u* in length and 2.5*u* at the widest part of the body. They are slightly curved and clubshaped; being wider at one extremity than the other, each lying in an opposite direction to its fellow. At the broad end a spherical or oval vacuole is often visible. A nucleus is not discernible in unstained specimens. A conspicuous granular residual body is always present after the appearance of the sporozoites. No micropyle can be seen in the sporocyst.

Experimental animals which by repeated faecal examinations appeared to be free from Coccidia, were fed large numbers of these Eimeria oocysts. In the faeces of a mink and two ferrets considerable numbers of the parasites appeared on the sixth day after feeding the sporulated oocysts. These they continued to pass for four days after which they completely disappeared. On the other hand two kittens (Felidae), a rabbit and a Guinea pig failed to become infected with the same material. These feeding experiments were repeated on three occasions and the results were constant. It therefore appears that this species is not a variety of *Eimeria*

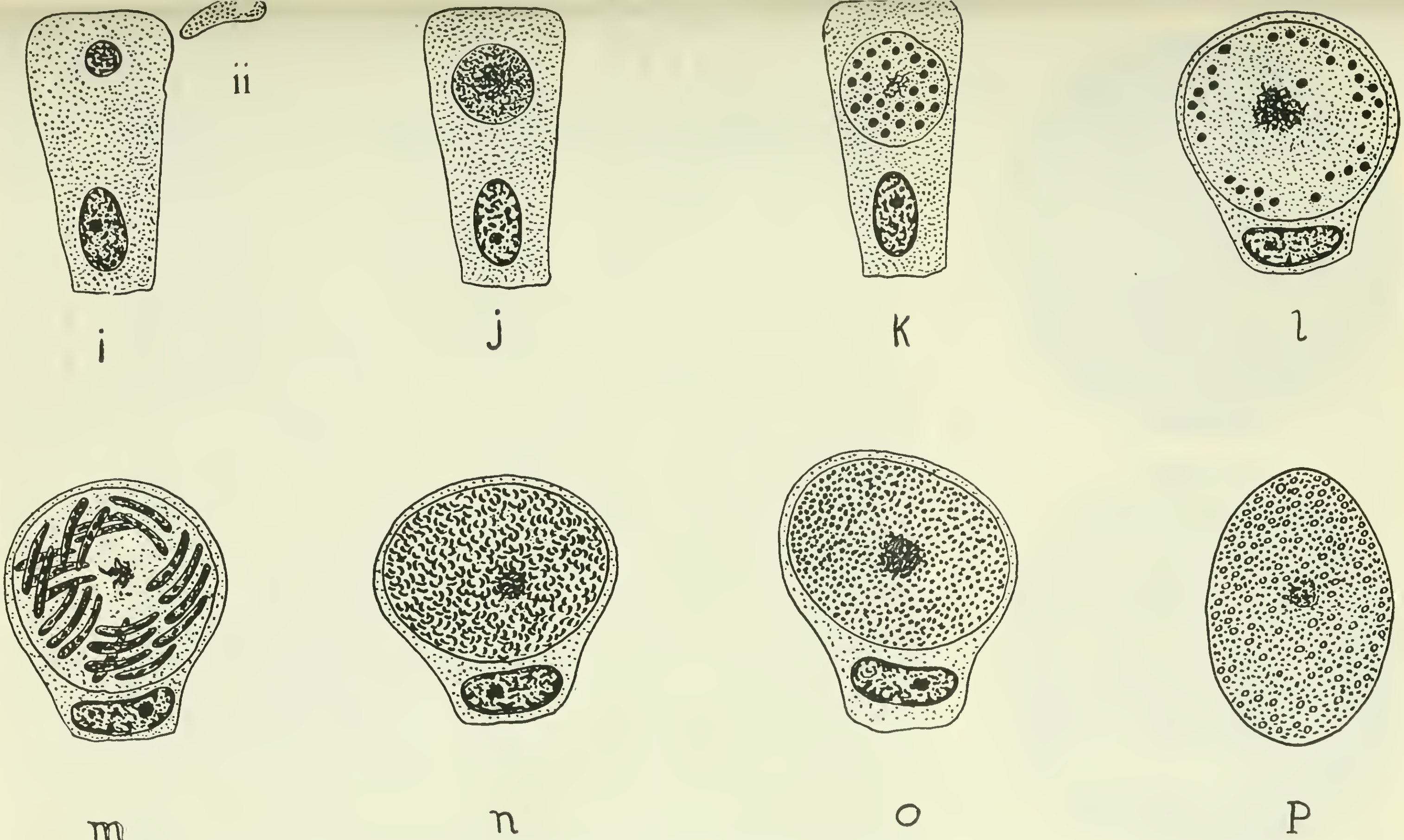


FIG. 2.—*INTRACORPOREAL DEVELOPMENT OF EIMERIA MUSTELAE.* *ii*—Sporozoite in lumen of intestine; *i*—development of schizont in epithelial cell; *j, k, l, m*—growth of schizont and production of merozoites by schizogony; *n*—microgametocyte in which numerous microgametes have developed; *o*—macrogametocyte; *p*—zygote formed by the fertilization of the macrogamete by a microgamete. The zygote secrets the oocyst and assumes the form illustrated in FIG. 1 *a*. (Original).

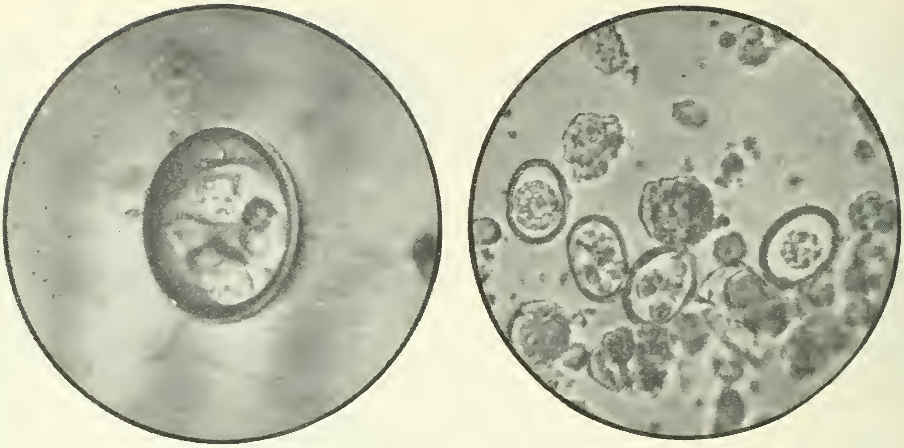


FIG. 3.—Photomicrographs of *Eimeria mustelae*. (Right)—Oocysts as they appear in a faecal smear (x 440). (Left)—A sporulated oocyst (x 1000). (Original).

felina, Eimeria perforans or *Eimeria caviae*, respectively of the cat, rabbit and Guinea pig, which it also differs from in morphological details and in the periods required for sporulation. It also differs from *Eimeria ictidea*, Hoare, 1927, to the extent that the oocysts and all stages formed during the extracorporeal development are uniformly smaller in size; a micropyle is never present and in many of the oocysts a small residual body occurs, while the period of sporulation, among the majority of the oocysts, is seven instead of three days. It therefore appears that the Eimeria which infects the mink *(Mustela vison)* naturally, and the ferret *(Mustela putoris)* experimentally, is a distinct species for which the name *Eimeria mustelae* has been proposed.

Endogenous Development of the Coccidia.—The intracellular development of the species described above has been studied in histological sections prepared from the intestines of mink which died during the course of the Ontario enzootic. Invasion of the intestinal epithelium shortly follows the ingestion of the sporulated oocysts from which the eight sporozoites escape. These are most frequently seen in the cells after they have assumed a small spherical form which lies in the cytoplasm between the nucleus and the free extremity of the cell. One or two sporozoites may penetrate a single cell. Their invasion is practically confined to the epithelium at the free extremity of the villi. During the process of schizogony they increase in size, the nuclear material divides into twenty to thirty-five small spherical masses which become elongated and develop each into a spindle-shaped merozoite. The great number of merozoites and the distribution of their various stages suggest that this phase in schizogony is repeated at least once. The merozoites thus penetrate further and further into the crypts of Lieberkühn eventually invading and destroying the entire epitheium including the Goblet cells. (Figs. 5 and 6). Sporogeny or the sexual cycle then commences following the escape of the merozoites and their invasion into adjoining crypts the cells of which they penetrate at all levels. Here they rapidly increase in size to form gametocytes or sex cells which in turn destroy the tissues that nourish them. The majority of gametocytes become macrogametes or female bodies while the remainder develop into microgametocytes containing great numbers of minute microgamets; these latter frtilize the macrogametes from which the zygotes then arise, assume oval forms around which the oocysts are secreted. Due to their increase in size the zygotes and the young oocysts distend the crypts of the intestine to several times their normal diameter. They are gradually forced to the surface where they accumulate in hundreds forming minute white masses visible to the naked eye. (Fig. 4). The oocysts are finally carried along with the ingesta and passed out of the body with the faeces. The endogenous development occurs throughout the length of the small intestine and is completed in six days. It is estimated that each oocyst ingested results in the passage of approximately 10,000 oocysts between the end of the first and second week after infection. On the same basis it is calculated the ingestion of each 100 oocysts is responsible for the destruction of 1,000,000 epithelial

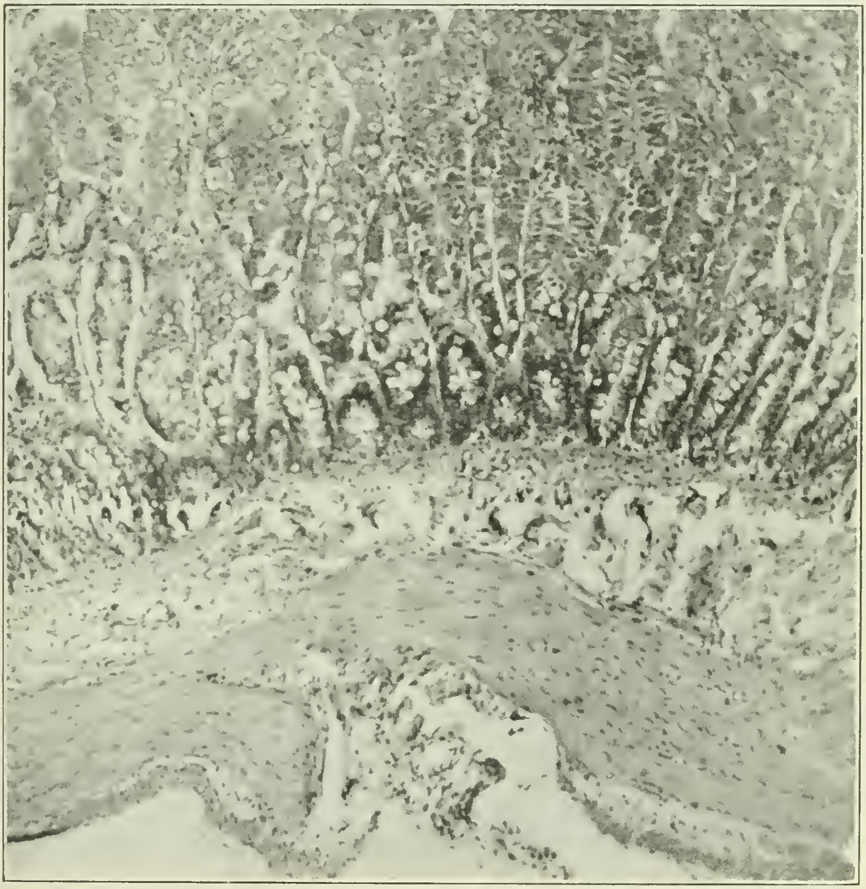


FIG. 5.—Section through jejunum of mink. The dark areas at the distal extremities of the intestinal crypts represent the few epithelial cells which have not been invaded or destroyed by *Eimeria mustelae* (x 100) (Original)

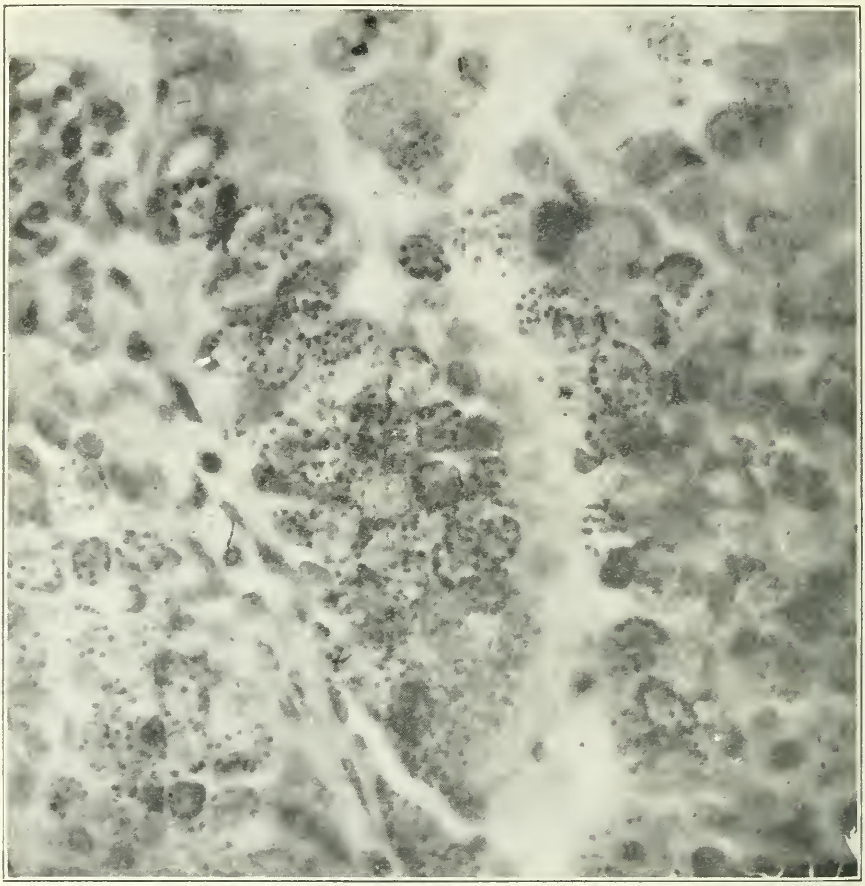


FIG. 6.—Section through jejunum of mink showing merozoites of *Eimeria mustelae* which have invaded or destroyed almost the entire epithelium in the three adjoining crypts of Lieberkühn illustrated. (x 440) (Original).

cells during the six days following ingestion. The great increase in the number of parasites by asexual and sexual multiplication explains the manner in which the disease spreads and develops.

The life histories of the Isospora in the mink, as far as we are aware, have not been studied from a comparative viewpoint. Taking the development of such closely related Coccidia as Isospora of the dog and cat as a criterion they are no doubt similar to them and to that of the Eimeria described above, with the possible exception that, as Wenyon and Sheather have ilustrated, invasion of the subepithelial tissues may also occur; a condition which if existent would make Isospora infection more serious and difficult to control than that of the Eimeria.

Infection.—The oocysts which pass in great numbers with the faeces of diseased animals continue their development usually for seven days when they become infective. Infection follows the ingestion of contaminated food or water. The parasite may spread throughout a ranch by moving the infected animls, their feed pans, drinking vessels, swimming baths and nest boxes from pen to pen; by carrying oocysts mechanically on footwear and upon hoes and other tools used in cleaning out faeces and bedding. Vermin, sparrows, flies and other insects which visit the pens are also likely factors in the mechanical dissemination of the parasite.

Susceptibility.—Young mink during the first summer of their lives are the most susceptible. The kittens are the first to suffer, then in order the young females and males; old adults are resistant but not entirely immune to the disease. In many ranches the coccidia are present but do not produce any symtpoms of disease. Under certain circumstances, however, they become highly pathogenic. Overcrowding and prolonged residence especially in small pens may be responsible for producing a greater infection than the animal can withstand. In the outbreak investigated in Ontario a historical study of the case indicated that the diet was re-

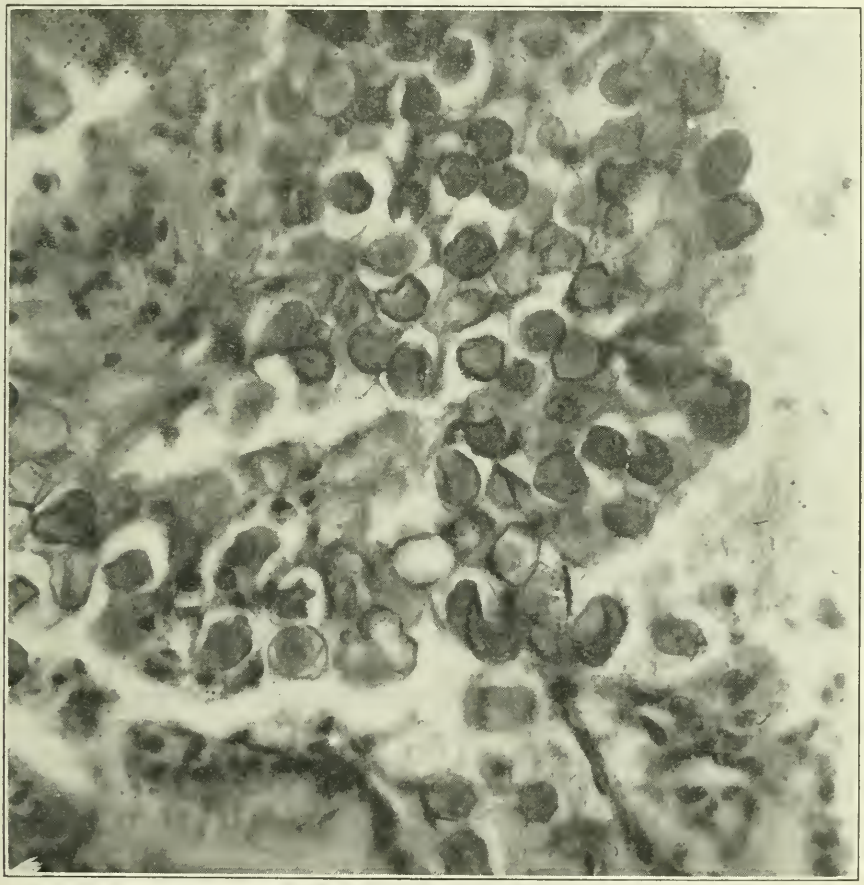


FIG. 4.—Section through jejunum of mink showing accumulation of oocysts *(Eimeria mustelae)* at the opening of an intestinal crypt. On the sixth day after a heavy infestation similar lesions occur throughout the length of the small intestine; to the naked eye they appear as small, raised, white specks. (x 440). (Original).

sponsible for lack of resistance against the disease as these animals had been fed nothing but cooked food for over an entire year.

In addition to the Isospora and Eimeria known to cause coccidiosis in mink, other species or varieties of coccidia varying greatly in pathogenicity, doubtlessly exist. This is likely when it is considered that twelve varieties of *Mustela vison*, the wild mink, occur in North America. All have been confined to their own localities by such natural barriers as mountains, deserts or large bodies of water. Unquestionably, they harbour parasites which have been inherited from some common ancestor, and such parasites, like their hosts, have changed in form and habit during the course of time. The modern minkeries have been stocked with several varieties of the wild mink, and with the animals their respective parasites have been introduced. Thus variation in racial resistance is possibly one of the reasons that in some ranches coccidia appear harmless and in others highly pathogenic.

Pathogenesis.—The invasion of the epithelial cells of the small intestine by the sporozoite and their subsequent intracelluar development is responsible for the rapid and extensive destruction of the epithelium. (Figs. 4, 5 and 6). As reinfestation continues the mucosa becomes progressively damaged. Localized areas devoid of their protective cells extend throughout the length of the small intestine; these areas increase in numbers and coalesce. Such destruction of the epithelium results in the exposure of the underlying tissue, in which the capillaries are congested and readily ruptured, causing numerous small hemorrhages collectively responsible for the bloody diarrhea. In uncomplicated cases cell infiltration is not marked and usually consists almost entirely of small mononuclear leucocytes. In long standing cases proliferation of the fibrous tissue elements is conspicuous especially at the tips of the villi which become tumified. The desquamation of the protective epithelium also opens up numerous avenues of entrance for bacteria which frequently cause secondary infection, acute enteritis or general infections.

Anatomical Changes.—The intestines may be contracted or relaxed. Within the lumen the contents and pathological changes are variable. Clots of blood, ingesta mixed with blood or mucous, masses of epithelium and oocysts are usually present. The mucous membrane shows haemorrhagic streaks. Small white spots about the size of pinheads composed of masses of oocysts which have accumulated at the openings of the intestinal crypts make the surface irregular. (Fig. 4.) These spots may extend throughout the length of the small intestine; they are one or two millimeters apart. Secondary infections make other gross post-mortem changes extremely variable, but the carcases are always anaemic and emaciated. In the latter stage of the disease, in some cases, the destruction of the mucous membrane has been so extensive that the parasites diminish in numbers for lack of cells to invade.

Symptoms.—In the early stages of the disease infected animals are not inclined to leave their nest boxes, they are hypersensitive to noise and movement. The stools may be soft but otherwise not abnormal. As the disease progresses the faeces become mucous coated and often streaked with blood and finally fetid haemorrhagic diarrhea develops. There is marked and frequent tenesmus and indications of increasing weakness. The animals walk unsteadily when disturbed, the legs appear unable to bear the weight of the body; the front paws are turned inwards and often knuckle over. The hindquarters are stiff, often swollen and eventually become paralyzed. The eyes protrude, the coat is rough and lustreless and frequently "off colour." Secondary anaemia and emaciation become marked as the disease progresses. The temperature varies considerably, depending upon the nature of secondary diseases. In the last stages of coccidiosis it ranges from 100 to 105 degrees. The pulse is usually feeble and difficult to detect. The blood picture is that of secondary anaemia with the exception that it is generally rich in haemoglobin. The white blood corpuscle count is usually high and from 40 to 80 per cent. of the cells are neutrophile leucocytes; the variation corresponding with the nature of secondary infections.

Complications of coccidiosis are numerous and include acute enteritis, hepatitis, peritonitis, bronchitis, pneumonia, nephritis and susceptibility to Staphyloccus infections manifested by the formation of large boils at the site of any external injuries. Such boils are usually seen about the head and neck.

The infected mink finally succumb from exhaustion or secondary infections. Their bodies are usually found in the nest boxes during the morning rounds of the ranch.

Course and Prognosis.—The disease runs a chronic course generally extending from four to eight weeks or longer, depending on the extent of reinfestation and the nature of secondary infections. Animals which show symptoms of anaemia and cachexia and haemorrhagic diarrhea seldom recover, while those that do survive remain stunted and in poor condition for many weeks and are not desirable for breeding stock or for their pelts. Infected animals which show only slight symptoms of enteritis may be saved when strict sanitary measures are taken to avoid further reinfestation. *The severity of the disease appears to depend chiefly upon the extent of reinfestation.*

Diagnosis.—The occurrence of the disease among mink kittens, the haemorrhagic diarrhea and the discovery of large numbers of the oocysts in the faeces or intestinal scraping are the factors upon which the diagnosis is based.

It should always be ascertained whether or not rabbits' viscera have been fed to mink passing small oocysts as *Eimeria perforans,* the small intestinal Coccidium of the rabbit, which resembles the specific Eimeria of the mink, may appear in the stools as a pseudo-parasite. If kept in 2.5 per cent. solutions of potassium dichromate most oocysts of *Eimeria perforans* will sporulate within forty-eight hours—whilst the majority of those from the mink take considerably longer.

Other infectious diseases of mink caused by a bacterium or virus generally run a much more rapid course than coccidiosis. A careful study of the distribution and the time elapsing between losses throughout a ranch is often a guide in deciding whether some acute infectious disease is present or some more insidious condition. There are also symptoms in common between coccidiosis, helminth parasitism and acidosis which must be duly differentiated.

Treatment.—Tablets containing Quinine Arsenate, Iron Arsenate and Nuclein Solution have been used by Grunert and beneficial results observed. Welbank in Ontario has noted improvement following the administration of Iron Carbonate in the feed. Hanson suggests that as some investigators report that the use of a diet high in milk, especially milk powder, has been attended with favourable results in developing resistance against coccidiosis in poultry, that it might at least be included in the diet of mink. Weak solutions of Potassium permanganate in the drinking water (in non-metallic vessels) may tend to reduce secondary infections by bacteria. Intestinal antiseptic powders or tablets may be mixed with the food.

Prophylaxis.—Coccidiosis can be prevented in minkeries. The elucidation of the life cycle of the Eimeria, together with observations in the ranch and upon laboratory animals indicate that repeated and heavy infestations are essential to produce manifestations of disease. The parasite is only capable of limited multiplication within the host and provided no reinfestation takes place animals become and remain free from the coccidia about four days after the latter first make their appearance in the stools. At the first indication of disease the mink should be placed upon raised wire floors where the droppings containing the oocysts pass through the openings and reduce the possibility of reinfestation to a minimum. Hanson records where the trouble caused by coccidiosis was entirely restricted to kits which had been moved from rasied wire floors to sand-bottomed pens. No cases of the disease were apparent in the animals left on the raised wire.

In the course of our experiments with laboratory animals it was also observed that the liberal use of straw in the cages prevented heavy reinfestation. On the other hand, animals kept on the bare metal, which was frequently cleaned, were constantly becoming reinfected. Likewise in the ranch it is extremely difficult to remove all the oocysts from board floors, bare or sprinkled with sand, even though the pens are cleaned daily. It is, therefore, recommended that when wire-bottomed pens are not available, board floors be covered with straw, to prevent the concentration of infected faeces in a thin film upon the surface. This lessens the possibility of the food becoming contaminated. Coal tar disinfectants on board or other floors, even when applied frequently, appear of little benefit. Grunert has succeeded in checking a number of enzootics in Alberta by observing the strictest sanitation in pens and nest boxes, never allowing faeces to remain for more than 48 hours, and by disinfecting the pens with Viscojod, an iodine preparation, said to destroy oocysts upon contact, (made by Chemische Fabrik Marienfelde, Berlin, Germany). His sanitary measures were continued until weekly routine faecal examinations showed no more oocysts; usually six weeks persistent sanitation were required to eradicate the parasites.

Care must be practiced to avoid disseminating the oocysts through the ranch by the use of hoes for scraping out the pens of non-infected and infected animals, by the interchange of feed pans, nest boxes, common catching boxes and other equipment; and upon the footwear of ranchmen. Swimming tanks are not necessary and should be removed. Every effort should also be made to reduce the number of flies and other insect carriers about the ranch by the destruction of their breeding places and the setting of traps.

The disease might in some instances be forestalled by the periodical microscopic examination of the faeces, so that at the first indication that Coccidia were increasing in numbers steps would be taken to prevent outbreaks of the disease.

The danger of coccidiosis may also be reduced by avoiding overcrowding and prolonged residence in pens; in keeping the animals healthy and resistant against disease through proper feeding, which includes the addition of raw meat, small quantities of fresh vegetables, canned tomato, milk or eggs in the diet.

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BOVINE HEMOGLOBINURIA
ASSOCIATED WITH AN INTESTINAL INFECTION CAUSED BY THE *CL. WELCHII.*

FRANK W. SCHOFIELD, D.V.SC.

INTRODUCTION

The disease under investigation in this report—bovine hemoglobinuria—occurs as a sporadic disease in many widely separated parts of the Province of Ontario and is most likely identical with similar diseases of cattle in other countries, reports of which appear from time to time in veterinary literature. It is important at the outset to make quite clear that this disease is not due to any specific blood parasites such as the piroplasms. As the condition hematuria is frequently designated as 'red water' it is necessary to add that only true cases of hemoglobinuria are included in the investigation. Hematuria is a rare disease in the Province of Ontario and does not occur in endemic form. The abundant evidence upon which these statements are based will be found in the different sections of the report.

The mortality from 'red water' is not high, but in some years the cases are numerous, and the loss in condition and milk production is serious to the individual farmer. But of equal seriousness and significance is the fact that the nature of the disease is not in the least understood, which means that a rational method of treatment cannot be employed. After studying the disease from many different angles we are coming to the conclusion that it is essentially an entero-toxaemia caused by an organism closely related to, if not identical with, the *Cl. welchii.*

THE RELATIONSHIP OF THIS DISEASE TO OTHER BOVINE HEMOGLOBINURIAS

There is a marked paucity of information with regard to this disease both in standard veterinary text books and in current veterinary literature. The older works on veterinary medicine undoubtedly give an accurate description of this condition, but it is not differentiated from the protozoal infections which were discovered at a later date. Such confusion was inevitable and excusable, but most modern text books make the more serious mistake of attributing to a piroplasm the great majority of cases of bovine hemoglobinuria. Parturient red water and red water due to the excessive consumption of special foods such as turnips, which were believed to represent independent conditions, are now included in the one category of piroplamosis. This view of the disease is I believe incorrect, but before offering the evidence a few quotations from different authors will be given.

Clatter[1], in his book entitled 'The Cattle Doctor', published some fifty years ago, gives an accurate description of the disease and makes the following interesting observation: 'The practice of feeding stall-fed cattle as well as others upon large quantities of turnips in cold weather, has not been sufficiently considered by owners of cattle, particularly those kinds that are the produce of ill-drained and ill-manured lands.'

Steel, J. H.,[2] in Diseases of the Ox, notes the existing confusion between hematuria and hemoglobinuria and affirms red water to be a true hemoglobinuria. 'It was thought that the color of the urine depended upon the presence of blood in it, but the absence of blood as blood is proved by the absence of red blood cells.'

In 'Diseases of Cattle,[3] (U.S. Department of Agriculture) the following statement is made in describing the disease red water. 'This is a common affection among cattle in certain localities, above all in damp, undrained lands, and under a backward agriculture. Frosted turnips or other roots will bring on the affection in some subjects.'

The following quotation is from Law's Veterinary Medicine:[4] 'Apart from the fact that the rich grasses of spring produce at first intestinal congestion and diarrhea, with consequent disorder of the liver and kidneys, this spring affection on particular pastures suggests some special poison in the pasture as the unknown cause of the disease. In all forms alike of this affection the nature of the soil appears to have a preponderating influence. It is the disease of the woods, and waste lands, of damp and undrained lands, of dense clays, of lands underlaid by clay or hard pan, of lands rich in vegetable humus, or vegetable moulds the decomposition of which has been hastened by the application of quicklime. Williams says that urine in such cases had a strong odor or rotten turnips. This argues not an anaemia determined by sugar, but rather an intestinal fermentation, perhaps superinduced by ferments introduced along the the turnips. Add to this the notorious fact that the offending turnips are usually such as are grown on wild, damp, undrained, swampy, or mucky lands, and we have the suggestion of a bacteridian poison, or a toxic product of bacteria.'

Coming to more modern text books we quote from an article by J. F. Craig in Hoare's System of Veterinary Medicine.[5] 'Some writers describe a special form of red water appearing in cows a few days after parturition. The symptoms exhibited are those described for ordinary red water, but are always very serious. In cases where the disease has been thoroughly investigated the *P. bovis* has been found in the red blood corpuscles. No ticks may be attached to the animal because the attack is a secondary one, the defences of the body having been broken down by the parturient state . . . . It was once thought that the disease was due to some dietetic error. Long rank grass, large quantities of turnips or a diet rich in carbohydrate were regarded as causal agents. About ten years ago attention was drawn to the great similarity between this disease and Texas fever and the blood of affected animals was examined by Nocard, Mettam, Montgomery and others and this led to the discovery of the true cause, the *Piroplasma bovis*.'

Records and Vawter[6] describe a disease of cattle common in certain parts of Nevada as 'bacillary ictero-hemoglobinuria'. This disease resembles the one now under consideration in several important respects. The causal agent is a spore forming anaerobe; the disease is characterized by a true hemoglobinuria; and the liver suffers much damage. The disease is, however, of a much more serious nature, usually terminating fatally in thirty-six hours. It would appear to be a septicemia.

Sordelli, Ferrari and Prado[7] report a hemoglobinuria among cattle in the Argentine which is due to an anaerobic bacillus of the Welch type. A full report of these investigations has not been seen but abstracts would indicate a close relationship between the two diseases. F. T. Harvey[8] reports a 'red water' of cattle which occurs among animals feeding on rape and kale. The disease is of low mortality, recovery usually following a change of food. J. Anderson[9] has given an excellent description of a disease termed 'parturient red water' of cattle which occurs in certain parts of Scotland and is definitely associated with the feeding of turnips.

Although modern text books tend to ignore the 'dietetic hemoglobinurias' and to look upon all cases of red water—except those due to chemical poisons—as caused by the haemosporidia, yet the writer is confident that many cases are essentially related to diet and intestinal infection with the *Cl. welchii.*

Clinical Description

In the earliest stages of the disease the affected animal may appear quite normal except for the passage of urine which has a slight red tinge. In fact it is usually the colored urine which first attracts the attention of the owner to the animal. Even at the early stage the pulse is accelerated to 60 or 70 beats. Diarrhea is frequently present and often precedes the hemoglobinuria. Marked constipation as a rule follows the diarrhea. The appetite remains good until the disease has advanced to the state of marked anaemia when the appetite usually fails and the secretion of milk is greatly diminished. In most cases by the third or fourth day well marked symptoms of disease are present. The visible mucous membranes are blanched and icteric; the animal is dull, the coat is staring, rumination is suspended and the animal has a haggard appearance. The urine is very dark in color and foams as it strikes the ground. The pulse is always accelerated, 80 to 100 or more, and the heart beats with a forceful impact upon the thoracic wall. In some cases the sound of the beat may be heard at a distance of several feet from the animal. There is little alteration in temperature except in fatal cases when a rise of two or three degrees frequently occurs. The feces are dark and cause a deep yellow discoloration of the skin of the hand if the rectum is entered. The respirations are increased. The disease exhibits varying degrees of severity, from mild cases which quickly recover with no other treatment than a change of food, to acute cases which run a fatal course in four or five days. This form is most frequently seen in cows which have recently calved.

Epidemiology

Distribution.—Red water is widely distributed, but there are certain sections of the county where the condition is rarely, if ever, seen, while in other parts the disease is practically an enzootic. Even in the red water district the disease occurs with greater frequency on some farms than on others.

Relationship to Soil Formation.—While cases of 'red water' occur on all kinds of farm land yet the evidence would indicate that it is more prevalent on light, poor land than on heavy fertile soils. The disease occurs with greater frequency on poorly drained land.

Seasonal Variation.—Most cases occur during the spring and fall months while the animals are out at pasture. Nevertheless cases occur throughout the year, many of the most severe cases developing among recently calved cows which are stable fed. The disease is more prevalent in wet than in dry seasons.

Relationship to Sex.—The disease is almost exclusively one affecting the female species. Very rarely is it seen in the male. There is a definite relationship between the occurrence of the disease and the physiological state of an animal which has recently calved.

Relationship to Age and Condition.—The disease occurs more frequently in mature and middle aged animals than in the young. There is no evidence that the general condition of the animal has any direct effect upon the incidence of the disease.

Relationship to Food.—Food is undoubtedly a factor of prime importance. Kale, rape, turnips and alfalfa are considered to be foods which act as predisposing causes to 'red water'. Here again, especially in conjunction with the puerperal state. In some districts where rape is heavily grown there is a common saying 'Never put a fresh cow on rape'. When cattle are penned in on rape and have access to no other food the number of cases may be as high as 50% of the herd. It is interesting to note that rape, kale and turnips all belong to the same family, the *cruciferae*. Tests have been made to see whether these plants contain any haemolytic substance like saponin, all with negative results.

Cold food, frozen food are partially decomposed food seems to be definitely provocative of the condition.

Mineral deficiency has frequently been suggested as a predisposing cause but there is no direct evidence to support the idea.

POST-MORTEM APPEARANCE

Up to the present we have been unfortunate in failing to secure many cases for post-mortem examination. Autopsies have been made on three typical cases. Two of these were conducted under very difficult circumstances at night time and with the poor illumination of lanterns. Tissue from two other cases has been received at the laboratory in excellent condition for examination. It is from this limited material that the post-mortem appearances have to be described.

The Liver.—The liver is pale and friable. It shows either a fine or coarse mottling. Large irregular areas may be seen which are pale brown in color and suggest areas of degeneration or necrosis.

The Gall Bladder.—This organ is distended and contains a thick viscid and very dark brown bile.

The Kidney.—The Kidney is swollen and has a dirty brown color. There are numerous irregular areas both large and small which are dark chocolate brown in color. The same dark brow patches are seen when the organ is incised. They have the appearance of haemorrhages.

The Small Intestine.—Viewed from the outside the intestine has a deep pink color which is due to staining with laked blood. The contents of the bowel may be slightly blood stained or appear almost normal in color. A few submucous petechial haemorrhages are present. There is little or no evidence of inflammation. The mesenteric lymph glands are œdematous.

The Abomasum.—In two cases the sub-mucosa was extensively infiltrated with a serous exudate, which caused the folds of the mucous membrane to be very thick and œdematous.

The Lungs.—In the most acute case observed the lungs showed a deep brown discoloration.

Morbid Histology

The Liver.—The changes in the parenchymal cells of this organ are of a very severe nature, and quite characteristic. There is extensive necrosis, which usually involves the areas around the central vein. It has the appearance of coagulation necrosis in that the general outline of the structure of the tissue can still be distinguished. Immediately adjacent to this necrotic area, and in two of the cases occupying a position mid way between the necrotic central area and the cells of the periphery is a zone of well marked cloudy swelling and fatty degeneration. The hepatic cells contain granules of bile pigment. Cellular infiltration is not marked.

The damage to the liver is so extensive and severe that the function of the organ must have almost ceased. The presence of large numbers of bacteria in some areas would indicate invasion which undoubtedly takes place prior to death.

The Kidney.—The epithelium of the convoluted tubules shows extensive cloudy swelling with some necrosis. Albumen and detached epithelial cells may be seen in the lumen of the tubules. Haemorrhages in the interstitial tissue are present.

The Small Intestine.—There is complete degeneration of the epithelium, but little evidence of inflammation. There is some cellular infiltration. The capillaries are empty or contain damaged red blood cells. Numerous large rods are seen invading the sub-mocusa. In morphology they resemble those seen in the sections of liver tissue.

Results of Blood Examinations in Hemoglobinuria

Blood Parasites.—A thorough examination of stained specimens of blood was made both from acute and subacute cases for the purpose of detecting the presence of such parasites as the *babesia* and *anaplasmata*. Such organisms were not detected in any specimen examined. This harmonizes with the clinical absence of temperature in the majority of cases and the inability to produce the disease by blood inoculation.

Blood Counts.—Numerous blood counts have been made, all showing a great reduction in the erythrocyte count. In an unusually severe case the count just prior to death was 960,000 per cu. mm. The average red cell count in four sub-acute cases was 3.2 per cu. mm. In one instance where erythrocyte counts were made for some time prior to the attack of hemoglobinuria a steady decline in the number of cells was noted, long before the urine showed the presence of hemoglobin.

The white cell count in variable. In the subacute cases it remains about normal or slightly below normal. The average in five cases being 8.0 per cu. mm. In the severe cases there is a marked increase up to as many as 20,000 w.b.c. per cu. mm. This again is in accord with the view that invasion of the tissues and organs, especially the liver, occurs in the acute and fatal cases. In such cases there is usually an elevation of temperature as the disease progresses.

Differential Cell Counts.—A few (4) only have been made, which revealed nothing of significance. The number of blood platelets is increased, which is most likely related to the increased activity of the bone marrow. Changes in the red blood cells were very marked. Anisocytosis, poikilocytosis and anisochromia were constantly present in all acute cases.

Hydrogen Ion Concentration.—pH determinations were made on five samples of blood serum from well marked cases of red water. The readings varied slightly but were all within the range for normal blood plasma.

BACTERIOLOGICAL FINDINGS

The bacteriological findings in the first fatal case of red water which was studied were so significant that the theory of an entero-toxaemia due to the *Cl. welchii* was the immediate result. Although many problems yet remain unsolved, and although the cultural findings do not always harmonize with this theory of the disease, yet there is no alternative view which offers as likely a solution of the perplexing question of etiology.

Bacteriological examinations have been made in three fatal cases of red water where the examination was made almost immediately after death, and of tissues forwarded to the laboratory from two other cases. Fecal examinations have been made in four typical and non-fatal cases. This constitutes the bulk of the material which has been available for bacteriological study.

In each of the fatal cases studied an organism which seems to be identical with the *Cl. welchii* has been isolated. In one instance this organism was present in almost pure culture. The characteristics of this organism are as follows.

Morphology.—A large rod, but varying in length; filaments rare. Sides parallel and ends truncated. Frequently seen side by side in small bundles. Spores which are subterminal rarely seen in culture, but present in smears made from the infected mucous membrane. Not motile. Capsules observed in body exudates.

Blood Agar.—Two days at 37°C. Two types of colonies form. One is round, pin head in size, opaque, smooth, convex, and with entire edge.

The other is a larger colony, unbonate, translucent, with a radially striated periphery. Zone of B-haemolysis surrounds both types of colony. Cooked meat medium:— Heavy growth; gas formed; meat turned pink; no digestion; sour odour. Litmus milk:— acid, gas and clot. Stormy fermentation. Sugars fermented. Glucose, maltose, sucrose, lactose and *mannite with acid and gas.

Pathogenicity.—Broth cultures injected subcutaneously into the guinea pig cause marked oedema, with necrosis and some liquefaction of the tissue. Death in about twenty-four hours. Rabbits and white mice are also highly susceptible. A powerful hematoxin is rapidly formed in meat medium which is highly fatal to rabbits in intra venous injection. A brief summary of the most interesting facts related to the case is given.

Case No. 1. (Whitelaw). A well marked case of parturient red water, the cow having recently freshened. She was being fed heavily on rape. Post-mortem was made two hours after death. The temperature was a little above zero. The post-mortem showed the typical tissue changes which occur in red water.

Duodenum.—The contents were fluid, slightly blood stained, and had the appearance of a catarrhal exudate. A smear made from the mucous surface of the gut and stained by Gram's method showed the presence of tremendous numbers of large Gram positive rods. Few other organisms were present. Smears from other parts of the intestine showed the same organisms but not in the same profusion. Blood agar slants were inoculated and incubated anaerobically. The organism was present in almost a pure culture. Our interest immediately centred upon the marked haemolytic power of the organism. It seemed reasonable to suppose that an organism producing such potent haemolysin in culture media might, when growing in the intestine of the cow, be absorbed and cause lysis of the red blood cells.

Case No. 2 (Robson). (During the last twelve months the owner has lost two cows with parturient red water, and a third was seriously ill but recovered.) This was a typical case, the cow having freshened two weeks previous to the attack. Blood drawn from the jugular vein a few minutes before the animal died was chocolate brown in color, due to the methemoglobin present. This has not been observed in other cases. Blood cultures remained sterile. The post-mortem revealed the typical changes described elsewhere in this report.

Duodenum.—This contained a slightly blood stained turbid fluid. Smears when stained showed the presence of large numbers of a medium sized Gram positive rod. The same organism was present in the liver tissue, and also in the large intestine. Cultures made from these organs showed heavy growth of a Gram positive bacillus which was very haemolytic. Aerobic cultures showed colon to be present, but the predominating organism was the Welch-like bacillus. Cultures from the kidney and bladder showed the presence of a few colonies of colon. This animal was receiving along with grain and hay about one bushel of turnips per day.

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*No fermentation with some strains.

Again the presence of a haemolytic organism growing luxuriously in the intestine suggested the nature of the red water to be an intestinal toxaemia with the formation and absorption of a powerful hematoxin.

Case No. 3. Well marked case of parturient red water. The animal was first noticed to be scouring, this was followed on the next day by constipation and the passage of red urine. The condition became progressively worse and by the fourth day the patient was very anaemic, entirely off feed, giving little milk, and passing a dark claret colored urine. Bowel movements had been few. A sample of the feces was cultured anaerobically and a comparatively few colonies of *Cl. welchii* developed. Approximately 2000 per gram of feces, which is considered normal. This result was disappointing as we had anticipated the finding of large numbers. Four days later after the attending veterinarian had administered a purgative a second sample of feces was obtained and cultured. This sample showed the presence of very large numbers of *Cl. welchii*, approximately 50,000 per gram. Three days later the number was still 30,000 per gram. This result is not easy to interpret if the initial diarrhoea was due to the *Cl. welchii*, but the fact of their presence is very significant.

The other fatal cases are not reported on in detail, as there is nothing of significance to note, apart from the fact that *Cl. welchii* were isolated from every case. It has been isolated from the liver, gall bladder, small intestine, large intestine, but not from the kidney or bladder or from the blood stream.

Cultures have been made from the feces of cattle suffering from a slight attack of red water, and in none of these cases has *Cl. welchii* been isolated in numbers sufficient to warrant its presence as being considered causal. In the future a series of fecal samples will be examined instead of single specimens. The need for this is indicated in the report on Case No. 3.

Is There a Relationship Between Certain Diets and the Development of *Cl. welchii* in the Intestine?

That there is a definite relationship between the disease red water and certain foods such as kale, rape and turnips is, I feel, definitely established. The question then arises, 'What, if any, is the relationship between these foods and the *Cl. welchii*?' At the outset it should be noted that all of these foods are fed with a certain amount of soil attached. In the case of kale and rape this is eaten in the field where many of the leaves become trampled into the soil, and many more are splashed by the heavy rains. Soil is the natural habitat of the *Cl. welchii*. The following data is offered as evidence which indicates that there is, at times at least, a relationship between the food consumed and the organism in question.

First.—A most interesting observation was made in connection with a control cow in one of our experiments. She had freshened two weeks, and was on an exclusive diet of rape. Ten days after the feeding of the rape began, severe diarrhea developed, with foetid gassy stools. This continued for twenty-four hours only. Cultures made at this time showed the *Cl. welchii* to be present in large numbers. The diarrhea ceased and the bacilli disappeared.

Second.—We have observed in several instances that along with the heavy feeding of turnips there has been a marked rise in the number of *Cl. welchii* in the feces. When the turnips are withheld the number of bacilli decrease. More feeding experiments and over a longer period of time will have to be undertaken before a final statement can be made on this matter. Should a definite relationship between organism and diet be established other important questions would still have to be considered, such as, 'Is the relationship due to an alteration in the physical or in the chemical environment of the organism?' Also the relationship between the parturient state and the development of *Cl. welchii* in the intestine remains undetermined.

Toxin Production

As pointed out by numerous investigators of the toxic activity of the *Cl. welchii* the toxin forms at an early hour when ordinary meat medium is employed for growth. We have found that a potent toxin as measured by its pathogenic effect in the rabbit is produced at about the eighteenth hour of incubation, using fresh cooked meat medium. A few hours either before or after this time and the culture possesses comparatively slight toxicity. The broth is filtered through paper and then through a Berkefeld filter of medium porosity. It possesses a powerful hematoxin, causing the rapid destruction of the red blood corpuscles with marked hemoglobinuria when injected intravenously into rabbits.

Pathogenesis

The theory which we have formulated to explain the nature of this disease is based upon the clinical and bacteriological findings. In each of the three fatal cases which were examined tremendous numbers of a haemolytic organism were present on and in the mucous membrane of the intestine and had even invaded the liver. This organism is frequently a normal inhabitant of the intestine, but under certain conditions, which we at present can only surmise, the bacilli undergo a tremendous proliferation and produce a powerful hemolytic toxin which being absorbed destroys the red blood corpuscles in such large numbers that the hemolgobin liberated has to be eliminated via the kidney in the urine. The toxin also causes severe damage to the liver, greatly impairing its functional activity in dealing with the blood pigment which is present in unusually large quantity in the plasma. The tumultuous heart beat is also due to toxic irritation. The marked constipation which in some cases amounts to a paralysis of the muscular coats of the intestine is in all probability due to the local effect of the toxin.

In this connection two important questions naturally arise which must be briefly dealt with.

First.—Are there a multiplicity of causes, or is there but one cause in the *Cl. welchii*? Sufficient work has not yet been done to answer this question, but it would seem reasonable to suppose that other anaerobic and hemolytic organisms beside the *Cl. welchii* might be responsible for a disease of which hemoglobinuria is the most impressive symptom. As before noted, the most serious form of this disease occurs in recently calved cows, while the mildest forms are usually seen among animals feeding on kale or rape, or out at pasture. It is quite possible that the difference of severity in the disease is related to a difference in the effective agent, or it may be that the resistance to toxemia and infection is lowered, especially in the puerperal cases.

Second.—What are those conditions which combine to provide a favourable environment in the intestine? Several factors may be mentioned which are known to operate in a similar manner in other diseases. All cause impaired functional activity of the intestine accompanied by digestive disturbance. Such are, frozen or chilled food, especially roots, decayed or mouldy food, excess of food, especially highly succulent foods. Alterations in the reaction of the intestinal contents is of great importance. There is also the physical nature of the food to be considered. The disease rarely occurs with hay and grain rations but frequently when succulent foods are being heavily fed. An experiment which is at present incomplete would indicate that the *Cl. welchii* can maintain itself in the intestine better when quantities of roots are being fed than when hay is the chief food.

Much exacting experimental work will have to be undertaken before these questions can be satisfactorily answered.

EXPERIMENTAL WORK

Most of the experiments have been related to two main purposes. First, to determine the relationship of certain foods to the disease. Second, to determine the relationship of certain organisms to the disease. Included here might be mentioned the first experiments made to determine the infectivity of blood and urine.

EXPERIMENT TO DETERMINE WHETHER THE DISEASE WAS TRANSMISSIBLE

Although the disease frequently affected several animals on the same premises and at the same time yet there was no evidence that the disease was transmissible. However, it was most important that the possibility of this disease being due to some blood parasite should be determined. The infectivity of urine and feces was also tested.

Experiment A.—A healthy cow was given an intravenous inoculation of 20 c.c. of blood from a cow suffering from an acute attack. The temperature was taken twice daily for a period of ten days. No elevation of temperature occurred and the animal has remained perfectly well.

Experiment B.—A healthy cow was given an intravenous inoculation of mixed blood from two acute cases, and mixed urine from the same cases. About 50 c.c. of blood and the same quantity of urine was injected. This animal showed no rise in temperature and has remained well.

Experiment C.—The feces from an acute case containing large numbers of *Cl. welchii* were fed to two healthy cows. The animals both remained well although an increase in the number of *Cl. welchii* occurred in the feces of both animals.

EXPERIMENT TO DETERMINE THE EFFECT ON HEALTHY CATTLE OF AN EXCLUSIVE DIET OF RAPE AND TURNIPS

Experiment A.—Five animals were used in the test. Two were old cows, two were young heifers, and one was a young cow. The animals were placed in a small paddock, and rape was fed continuously. No other food was given. The weather was cold, but not extreme. The feeding began on October 25th and was continued till November 15th. Apart from a slight loss of weight the animals remained perfectly well.

Experiment B.—Two cows which had recently calved—two weeks fresh—and were milking well, and one heifer were used in the experiment. The rape which was fed was kept out-of-doors and for most of the time was frozen. This cold or frozen rape was fed. The cattle were stabled continuously. Towards the close of the experiment the weather became mild and the rape began to decompose. No hay was given. One of the cows and the heifer received cultures of the *Cl. welchii.* The following is a summary of the most important data with regard to these three cattle during the course of the experiment.

Data on Roan Heifer.

Dec. 5th, 1932. Commenced to feed frozen rape.

Dec. 8th to 20th. Drenched on alternate days with small quantities of *Cl. welchii.*

Dec. 20th. Respirations increased, temperature normal, pulse 82 per minute, with forceful beat against the thoracic wall. Diarrhea present. Hemoglobin 75% ; White cells 8,000 per cu. mm.; Red cells 4,400,000 per cu. mm.

Dec. 24th. Temperature rises to 103°F, pulse 100, respirations 38.

Dec. 27th. Pulse 104, temperature 106°F. Eating very poorly. Hemoglobin 40% ; White cells 16,000 per cu. mm.; Red cells 3,600,000 per cu. mm.

Dec. 28th. Muscular twitching and shaking of head. Urine dark claret color. Heart beats tumultuous.

Dec. 30th. Not eating, pulse, temperature and respirations all increased. Urine still contains much hemoglobin. Killed. Estimated hemoglobin in the blood 10%.

Post-mortem.—The most marked lesions were in the liver where numerous large foci of necrosis were present. The organ was much enlarged and friable and weighed 14 lbs. The gall bladder was distended with dark bile. The portal lymph nodes were oedematous. The sub-mucosa of the abomasum was very oedematous. The small intestine showed but slight changes. A few haemorrhagic spots were present in the mucous membrane of the cecum and colon. The contents were blood stained. Kidney, enlarged and chocolate brown in color. The lungs were very brown. The heart was pale and flabby.

The liver infection was due to the *Actinomyces necrophorous. Cl. welchii* were present in large numbers throughout the gastro-intestinal tract.

Comment.—This was a typical case of hemoglobinuria, with the rapid destruction of red blood cells, presence of hemoglobin and albumen in the urine, accelerated pulse and pounding heart. The etiology is obscure. It is impossible to determine the relative effect of the three most likely factors, the rape, the *Cl. welchii* and the *Ac. necrophorous.* Certainly the severe liver infection with *Ac. necrophorous* would prevent that organ from carrying out its function of pigment formation from the hemoglobin presented. Some hematoxic substance was being formed which caused a rapid destruction of the red blood cells. We are inclined to believe that the *Cl. welchii* were responsible for this hematoxin.

Data on Ayrshire Cow.

Age about five years. Freshened November 23rd, and giving about 60 lbs. of milk per day.

Dec. 7th. Started to feed frozen rape.

Dec. 10th to Dec. 20th. Drenched with broth culture of *Cl. welchii.*

Dec. 18th. Marked purging. Feces have foetid odour.

Dec. 19th. Still purging. Anaerobic cultures show tremendous numbers of *Cl. welchii.*

Dec. 20th. Appears dull, not eating well. Temp. 103°F. Pulse 84, with heart beats very forcible. Respirations 35 - 40 per minute. Has the clinical appearance of a cow with 'red water'. No hemoglobin in urine. Red blood cells 3,350,000 per cu. m.m. White blood cells 10,000 per cu. mm. Hemoglobin 85%.

Dec. 21st to 24th. Steady decline in pulse rate, temperature and respirations which have almost become normal. *Cl. welchii* still present in the feces.

Dec. 24th to 27th. Temperature, pulse and respiration normal. Few *Cl. welchii* in feces. Hemoglobin 75%.

Jan. 5th. Feeding of rape discontinued. During the previous week about 2 gallons of crushed oats were fed daily as appetite was poor and she was failing. Temperature 102°F., pulse 56, respirations 24. Red blood cells 3,585,000; White blood cells 9,000; hemoglobin 65%.

Feb. 8th to 13th. Fed exclusively on turnips. Remained normal. No evidence of diseases. No hemolytic anaerobes in feces.

Feb. 13th. Feeding of turnips discontinued.

Comment.—The sudden occurrence of severe diarrhea associated with *Cl. welchii* ten days after the feeding of rape was commenced is of interest. A clinician who has had much experience with parturient 'red water, stated that she would certainly develop the disease, but the premonitory symptoms disappeared and within a few days she was normal. May this be interpreted as representing mild infection with recovery and immunity? It is very interesting to note that the control cow came down with exactly the same condition after being on a rape diet for nine days. Cattle being on rape rarely show any symptoms of disease before the seventh day.

Data on Control Cow.

A young animal in splendid condition and giving about thirty pounds of milk per day. Had calved two weeks previously. No organisms were fed.

Dec. 11th. Feeding of rape began.

Dec. 12th to 19th. Quite normal. Anaerobic cultures showed an occasional colony of a hemolytic bacillus.

Dec. 20th. Marked purgation with evidence of intestinal upset. Gas sounds loud and numerous. Temperature normal, respirations normal, pulse increased to 60. Anaerobic culture showed presence of numerous hemolytic colonies which had the morphology of *Cl. welchii.*

Dec. 21st. The diarrhea ceased.

Dec. 22nd to Jan. 5th. Apparently normal. Feeding of rape discontinued.

Dec. 27th. Red cell count 5,500,000. white cell count 11,600; hemoglobin 105%.

Jan. 5th. Red cell count 5,064,000; white cell count 16,800; hemoglobin 85%.

Jan. 13th to Feb. 13th. Fed on turnips with about one gallon of crushed oats per day.

Feb. 14th. Feeding of turnips discontinued. Red cell count 6,000,000; White cell count 8.8; hemoglobin 85%

Comment.—The occurrence of diarrhea associated with *Cl. welchii* in the feces on the ninth day of the experiment was most unexpected and interesting. No organisms had been fed to the cow. It would appear that the food—rape—offers a suitable environment for the growth of these bacilli. The clostridium was most likely responsible for the intestinal irritation and diarrhea.

Heifer Leslie.

Yearling heifer in good condition. Was fed turnips twice daily, with a mid-day meal of hay and about one-half gallon of chopped oats.

Jan. 12th. Feeding began. Red blood cells 7,500,000; white cells, 12,000; hemoglobin 95%.

Jan. 28th. Feeding of turnips stopped. Red blood cells 8,500,000; while cells, 12,500; hemoglobin 95%

Jan. 23rd - 24th. On both of these days a drench consisting of a heavy broth culture of *Cl. welchii* was given.

Comment.—The animal fell off in flesh, but remained perfectly well. After being on turnips for four days the pulse was accelerated from 61 to 70, which rate was maintained during most of the period of the experiment. The heart beat was also increased in force. Although drenched heavily with the *Cl. welchii* the organism was not recovered from the feces.

It is quite apparent from these experiments that it is no simple matter to produce the condition of hemoglobinuria. That it does not necessarily follow the feeding of rape or turnips even when these are fed in excessive quantities. It would appear, however, that the growth of the *Cl. welchii* may for a time at least be enhanced by the presence of large quantities of these foods in the intestine. Factors which are at present unknown to us must be discovered and properly related to the facts which are already known before we can hope to reproduce the disease experimentally. We can at present offer no certain explanation to account for the one typical case of red water which occurred in the 'roan heifer'. It was most likely due to *Cl. welchii* infection.

Experiment in Search of a Hemolytic Substance

Most of these experiments were undertaken before we had discovered that the hemolytic *Cl. welchii* was to be found in great abundance in the small intestine of fatal cases. No post-mortem had been made at the time. Brief mention only will be made of these experiments as they have no immediate significance.

(a) Aqueous extracts were made from kale, rape, cabbage and tested against suspensions of red blood cells. No hemolysis was produced.

(b) Red blood cells were added to urine from acute cases of red water, and the effect of the urine upon the cells observed under the microscope at different intervals of time. Using the red cell counting chamber accurate counts could be made. Slight reduction in the number of blood cells was observed in some cases, but this was neither marked enough or constant enough to have significance.

(c) Fecal extracts were also employed but with no success. The feces had to be greatly diluted before a clear filtrate could be obtained.

Even if present the hemolytic substance would have been greatly reduced in potency.

(d) Blood serum from acute cases was also used, but no hemolytic substance could be satisfactorily demonstrated.

Experimental hemoglobinuria produced by the toxins of *Cl. welchii* is discussed elsewhere in this report.

FEEDING EXPERIMENTS WITH TURNIPS

In these experiments an attempt was made to produce red water in cattle by feeding with a heavy ration of turnips, and then by means of various devices reduce the resistance of the animals to infections with *Cl. welchii.* For example in some cases the experimental animal was bled heavily, in others, at the time of the experiment injections of the toxin of the *Cl. welchii.* were given, in other cases turnips were chilled or frozen before feeding. These and other methods were resorted to in an attempt to produce hemoglobinuria. In no case were we successful. No difficulty was experienced in getting the *Cl. welchii* to grow for days at a time in the intestine but invasion of the body tissue could not be achieved. Anaerobic cultures were made almost daily to determine the number of *Cl. welchii* in the feces, and so observe the rise and fall in the number of organisms per gram of fecal matter.

Experiment A.—Red cow. A young cow, thin but in good health, and nursing a two months old calf. She was an ideal subject for such a test. In addition to the turnips a handful of soil from a farm where the disease was prevalent was fed daily. The turnips were frequently chilled if not frozen before being fed. The cow was drenched with cultures of the *Cl. welchii* which was given with chalk to neutralize the gastric acidity. To produce intestinal stasis tincture of opium was administered. Yet in spite of all the subject remained well.

Nov. 18th. Feeding of turnips began. No other food was given. Between two and three bushels were consumed daily.

Nov. 29th. Drenched with a heavy broth culture of *Cl. welchii* to which had been added chalk. Tr. of opium was given which produced intestinal stasis.

Dec. 2nd. Feces contained large numbers of *Cl. welchii.* This treatment had no apparent effect, apart from an increase in the pulse rate. Before the culture was given the average pulse rate was 50 per minute. It now rose to 68 - 70, which rate was maintained until the termination of the experiment. In fact the pulse occasionally rose to 90 beats per minute.

Dec. 4th. Culture of *Cl. welchii.* with chalk again given.

“ 5th. “ “ “ “ “ “ “ “

“ 10th & 13th.“ “ “ “ “ “ “ “

This seemed to have no effect apart from the increased pulse rate.

From 150,000 to 200,000 *Cl. welchii* were present per gram of feces at this time.

Dec. 21st. Feeding of turnips discontinued.

Comment.—An interesting observation in this case was the rapid increase in *Cl. welchii* coincident with the feeding of turnips and before any culture had been administered. The count rose from 1000 per gram of feces to 10,000 per gram after ten days feeding.

Urinalysis.—pH on two samples taken before the feeding of turnips = 7.9 (average).

pH on five samples taken after the feeding of turnips = 7.1 (average).

Tests on the feces showed no appreciable change in pH after the feeding of turnips.

Experiment B.—Large red cow. Well nourished; had been fresh for six weeks and giving about six quarts of milk daily. This cow was treated in exactly the same manner as the animal in Experiment A, except for the withdrawal of six litres of blood at the time of administering the live culture of *Cl. welchii.*

The experiment was continued for a period of one month, during which time the animal remained well and showed no evidence of hemoglobinuria. The *Cl. welchii* disappeared from the feces within a few days after the administration of the live broth culture.

Urinalysis.—pH of two samples taken before the feeding of turnips = 8.0

pH of three samples taken after the feeding of turnips = 7.6

Tests made on the feces both before and after the feeding of turnips showed no appreciable change in the pH.

Experiment C.—An old cow, undernourished and a reactor to the tuberculin test. She had calved three months prior to the experiment. In addition to the diet of turnips this cow was bled quite copiously on two occasions, the last bleeding being one week before the feeding of the turnips was commenced. Altogether twenty litres of blood were withdrawn. The turnips were chilled before being fed, and Welch toxin was given intravenously at the time of administering the broth culture by mouth.

Jan. 23rd. Feeding of turnips began, after being starved for 24 hours. Drenched with a 24 hour old bouillon culture of *Cl. welchii.* Approximately 250 c.c. of heart meat medium. Toxin 100 c.c. given intravenously.

Jan. 24th. Drench of bouillon culture repeated.

Jan. 28th. Drenched with two hundred and fifty grams of fresh feces from an acute case of red water which contained large numbers of *Cl. welchii.* This resulted in a heavy growth of *Cl. welchii* in the feces, as many as 100,000 per gram of feces being recorded.

Feb. 12th. No symptoms of hemoglobinuria. Experiment ceased.

Comment.—The only point of interest was the sudden fall in the number of *Cl. welchii* in the feces when the feeding of turnips was discontinued. Within two days the number dropped from 40,000 per gram to 2,000 per gram, and remained consistently low.

Experiment E.—This experiment was practically identical with the one recorded in 'C'. The subject was a Jersey cow. She had calved three weeks before the experiment began. The result was negative. No signs of hemoglobinuria appeared throughout the experiment.

Experiment D.—Aged Holstein cow, calved three months before the experiment began. Giving about eight quarts of milk per day.

Jan. 23rd. Feeding of chilled turnips began.

Jan. 30th. Drenched with 250 grams feces containing large numbers of *Cl. welchii* from an acute case of red water.

Feb. 3rd. Many *Cl. welchii* in the feces.

" 3rd. Feeding of turnips discontinued. No symptoms of hemoglobinuria.
The number of *Cl. welchii* in feces fell rapidly from 10,000 per gram. on Feb. 5th to less than 1000 by Feb. 9th.

" 20th. This cow was again placed on a diet of turnips.

" 22nd. The *Cl. welchii* number 4000 per gram of feces.

" 23rd. " " " " 24,000 " " "

" 24th. " " " " 8,000 " " "

Mar. 1st. " " " " 40,000 " " "

" 2nd. " " " " 40,000 " " "

Comment.—As in other cases the number of *Cl. welchii* rapidly decreased when the heavy feeding of turnips was discontinued. Equally marked was the increase with the change back to a diet of turnips.

EXPERIMENTAL HEMOGLOBINURIA IN THE RABBIT

Typical hemoglobinuria can be produced at will in the rabbit following an intravenous injection of potent toxin made from the *Cl. welchii* isolated from cases of red water. The hemoglobinuria commences within a few hours after the injection of the toxin and continues for about eighteen hours. Methemoglobin is usually excreted. The urine also contains much albumen. When the dose is excessive the rabbit succumbs in two or three hours. Post-mortem shows the peritoneal cavity to contain a small quantity of bloody fluid, likewise the thorax and pericardial sac. The kidney shows changes which closely resemble those seen in the kidney of the ox. The bladder contains a dark reddish brown urine. Some hemorrhage may occur from the kidney, but the altered color of the urine is essentially due to hemoglobin. The severe destruction of red blood cells is indicated by the following data, which is quite typical.

Rabbit 'R. R.'

Feb. 9th. Red cell count = 4,000,000 per c.cm., hemoglobin 80%. Toxin 3.0 c.c. intravenous.

Feb. 10th. Urine deep red wine color. Hemoglobin 75%. Toxin 5.0 c.c. given intravenous.

Feb. 12th. Urine dark, reddish-brown. Hemoglobin 35%. Red cells 1,600,000 per c. cm.

Sections of tissue show marked degeneration of the parenchymal cells of both the liver and kidney. Hemorrhage is also present in the kidney and the glomeruli appear to be damaged.

EXPERIMENTAL HEMOGLOBINURIA IN THE COW

At the time of writing one case only has been produced in the cow by intravenous injection of *Cl. welchii* toxin. The condition as produced by such artificial means differs in some respects from the disease which occurs naturally. The forceful beating of the heart upon the chest wall was absent. The heart beats were, however, accelerated. This may be due to a difference in the toxin which forms when the organism grows in kale and turnip, to that which is produced when meat is used as a culture medium. An interesting feature was the difficult breathing, a marked grunt accompanying each expiratory act. This breathing closely resembles the difficult respiration commonly seen in a disease known as 'rape poisoning' believed by the writer to be another form of intestinal intoxication.

The following is a brief summary of the important data in the above described experimental case.

Subject.—A young Jersey cow in excellent condition but infected with Johne's disease. Freshened.

Feb. 23rd. Erythrocyte count 5,200,000. White cell count 10,000 per c.cm. Hemoglobin 85%.

Feb. 24th. Four hundred c.c. of toxin injected intravenously at 10 a.m. At noon there was marked muscular twitching and tremor. Difficult respiration, .30 per minute. The pulse was 70. During the afternoon severe diarrhea. At 3.30 p.m. 400 c.c. of toxin given intravenously. At 9 p.m. the urine showed a slight pink color. At 12 p.m. the urine was a deep red wine color and clear. There appeared to be vesical irritation as she was very sensitive to the passing of the catheter.

Feb. 25th. Sample of urine taken at 10 a.m. was very cloudy and reddish brown in color. When allowed to stand a heavy sediment formed and the supernatant urine was normal in color. The pulse was 84 and weak. Respirations shallow and accelerated. 40 per minute. Rumination had ceased and peristaltic murmurs were absent.

Feb. 26th. The animal shows marked recovery. Still not eating and peristaltic movements weak. Urine normal in color. No albumen. Pulse 72 and stronger.

Comment.—A well marked hemoglobinuria was produced in this cow. This was followed by a transient hematuria due to the damage done to the kidney by the toxin. It is quite evident that the toxin of the *Cl. welchii* can cause typical hemoglobinuria when injected into either the rabbit or the cow. The urine contained much albumen, even the earlier sample before the appearance of red blood cells.

Conclusions

First,—that hemoglobinuria (red water) of cattle as it occurs in the Province of Ontario is probably due to an intestinal infection with a hemolytic anaerobe which, if not identical with, is closely related to *Cl. welchii.*

Second,—that in certain animals either the puerperal state or the feeding of turnips, kale or rape may render them highly susceptible to intestinal infection with this clostridium with resultant hemoglobinuria.

Third,—that there are other factors beside the puerpal state or diet which influence and even determine the development of the disease. These factors are most likely ultimately related to the soil and its direct influence upon the crops, and indirect effect upon the stock.

Fourth,—that there is evidence indicating that the heavy feeding of turnips tends to increase the number of *Cl.welchii* present in the feces.

Fifth,—that experimental hemoglobinuria has been produced in the rabbit and cow, by the intravenous injection of a toxin prepared from the *Cl. welchii* and that the condition so produced is very similar to the condition which occurs naturally.

Sixth,—that both chemically killed culture and anti-toxic serum should be prepared and their value as immunizing agents determined.

Acknowledgments

I wish to express my deep appreciation of the co-operation and help given in many ways by Mr. L. C. Swan. The work would have been discontinued had it not been for the generous way in which he gave his services. I also wish to thank Dr. Frank Cote for the unselfish way in which he co-operated in the clinical and field work attached to this investigation.

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BRIEF REPORT OF AN EPIDEMIC OF INFECTIOUS DIARRHOEA IN CATTLE

Frank W. Schofield, D.V.Sc.

During the last two months of the present year numerous reports were received of outbreaks of diarrhoea among cattle. So numerous were these outbreaks that the disease assumed the proportions of a widespread epizootic. The writer has no knowledge of any previous outbreaks where such large numbers of animals have been affected. This brief report is simply to record the fact of the epizootic. No investigation was made apart from the few experiments which are included in this report.

It is most probable that the disease is identical with 'winter scours', a vibrionic infection of cattle which has been studied and fully reported on by F. S. Jones and R. B. Little.

Description of the Disease

The disease affects cattle only, all except the very young being susceptible. It is highly infectious and is characterized by marked diarrhoea which may continue for a few hours only or persist for several days. The liquid feces contain much mucous and in many cases both large and small blood clots. The infection spreads rapidly through the herd, so that in a few days most, if not all, of the cattle are infected and suffering from diarrhoea. There is little or no elevation of temperature and the affected animals do not appear to be seriously sick. There is a marked decrease in the milk flow. The mortality in most cases is low.

Source of the Infection and Spread of the Disease

The source of the infection is somewhat mysterious, as in many cases there was no possibility of contact between healthy and diseased animals. The first outbreak in this community occurred on a farm which was rather isolated and on which there had been no movement of stock. The next herd to be infected was many miles away and no source of infection could be discovered. This spontaneity of infection was characteristic of the outbreak. In most cases carriers of the infection must have been present on the individual farms. Diarrhoea is not an unusual condition among cattle during the winter months. It is important to note that the first outbreak coincided with a sudden and severe drop in the temperature. The early winter was unusually cold and it is most probable that the sudden and excessive cold had a definite influence upon the occurrence and course of the outbreak.

Result of the Bacteriological Examinations

Samples of feces from six different sources were examined and in two of these vibrios were demonstrated in stained films. It is most likely that vibrios would have been discovered in some of the other cases had a more diligent search been made. Cultures both aerobic and anaerobic were made which gave variable results. In one case an almost pure culture of a steptococcus was found, in another an organism of the *Salmonella* group predominated. In the other specimens colon was the chief organism present.

EXPERIMENTS IN TRANSMISSION

Feces from three different cases, two acute and one a recovered case, were mixed with water and given as a drench to three healthy cows. Six days later two of the three cows came down with marked diarrhoea. This condition continued for about twenty-four hours in one cow and thirty-six hours in the other. The feces contained many small blood clots. There were no constitutional symptoms. The third cow which received the feces from the recovered case at no time showed any symptoms of the disease.

This experiment would indicate an incubation period of about six days.

EXPERIMENT WITH FECAL FILTRATE

The rapid spread of the disease within a herd and from farm to farm suggested the possibility of a filterable virus infection. Filtrates were made from two samples of feces obtained from well marked cases of the disease. Filters of medium porosity were used. Two yearling heifers were used in this experiment. The filtrate was given as a drench intravenously and intratracheally. Daily temperatures were taken. The animals were kept under observation for a period of two weeks and remained perfectly well. From this limited experiment it would appear that the disease is not due to a filterable virus.

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STERILITY IN THE BITCH

H. E. BATT, B.V.SC.

Sterility in bitches is a condition not uncommon in the case of pure bred animals. Pure bred dogs are often kept under artificial conditions which are conducive to more or less sterility. Again, close breeding may be practised to such an extent that sterility occurs in some of the females. Sterility as it occurs in such instances may be total or, as more often happens, it may be a partial condition, that is, the number of pups in the litters of some females may be very small or, as is perhaps more frequent still, the female may fail to conceive over a number of oestral periods, then produce, and then fail to conceive again.

In treating or controlling sterility in bitches several factors must be considered. The general health of the animal must be observed, the pedigree examined and, if possible, a history of the ancestors inquired into to ascertain whether or not sterility has been observed among females of that particular strain. The feeding methods practised in the kennel must also be inquired into and if found wrong they must be corrected. This is important as there seems to be little doubt that incorrect feeding coupled with insufficient exercise produces most of the cases of sterility in bitches. The following are some of the conditions that may be listed as causing sterility and which may operate singly or, as sometimes happens, more or less collectively.

Sterility due to abnormalities of the endocrine system.—As to sterility caused by abnormal conditions in the endocrine glands, the evidence of such in the case of the bitch is at present wanting, or at least uncertain. It is well known that there are cases occurring in which bitches do not come in season at all and these may be due to an endocrine gland deficiency. The bitches which come in season regularly once a year should not be included in this group as in these cases the animal is probably reverting to type and is following the breeding habits of its wild progenitors that come in season but once in twelve months. Extracts from several of the endocrine glands have been administered in attempts to correct sterility of this nature but up to the present the evidence in their favour is to say the least conflicting, and in the instances where oestrum is produced failure to conceive often follows.

Sterility due to a diseased or abnormal condition of the ovary.—Sterility due to abnormalities in the ovary itself do no doubt occur, but owing to the impossibility of making a manual examination of the ovary of the bitch this form of sterility cannot be diagnosed with certainty. In the college clinic the practise of opening up the abdominal cavity and making an examination of the internal genitals of some sterile bitches is being practised but as yet not enough cases have been operated upon to warrant any opinion being given.

Sterility due to injury during previous parturition.—Injuries to the genital passages and uterus during previous pregnancy and parturition seem to be somewhat rare in the bitch. Even severe attacks of metritis will not impair future reproductive functions. The fact that a bitch has undergone a Caesarian section will not have effect upon the next litter except perhaps to slightly lessen the number of pups, although it should be remembered that conditions which rendered necessary the Caesarian section in the first instance may still be in operation throughout the period of the second pregnancy.

Any inflammation of the genital passages, chronic or acute, occurring just before, during, or just after oestrum will in most cases produce sterility in so far as that mating is concerned. Sometimes a severe vaginitis will leave a permanent sterility as a result.

Sterility due to a deficiency of vitamins.—Whether or not there is a vitamin the lack of which will produce sterility in the bitch seems open to question. There seems to be no doubt, however, that an insufficiency of vitamins A, B, C, and D will impair the general health of dogs and this alone is a contributing factor to sterility. It is said by some authorities that vitamin E is not required by canines. However, it is an easy matter to supply vitamins by means of a properly balanced ration and this should always be done as a matter of routine. Raw meat, fat and lean, raw eggs, milk and cod liver oil during the winter months will furnish all the vitamins required by the dog, that is, vitamins A, B, C, and D. If E is desired, alfalfa meal or green vegetables may be given, or cotton seed oil which is high in vitamin E. It is best to rely upon raw food stuffs as the source of vitamins.

Sterility due to errors in diet or lack of exercise.—Overfeeding, improper feeding, lack of exercise—all or either of these conditions may and often do produce sterility in the bitch. Indeed it is probable that most of the sterility in canines, both male and female, is due to these causes. The condition under which dogs are kept in large kennels and under more or less artificial conditions in cities are conducive to sterility and frequently only the pronounced fecundity of the bitch offsets these adverse circumstances. In the great majority of cases of sterility a change of diet, management, and sometimes of entire environment will correct the condition. Many instances of sterility being overcome by a change of ownership are on record, which goes to prove that correct feeding, sufficient exercise and good environment are important factors in overcoming and preventing sterility in bitches. Exercise is essential to the pregnant female. This fact is often overlooked in some establishments. Mineral deficiency may be at least a contributing cause of sterility and should be guarded against by mixing a little bonemeal flour with the ration. Bad methods of feeding often lead to lack of vigor and to more or less debility resulting in sterility.

Sterility due to a lethal factor.—As regards the lethal factor, this is a term used in genetics to describe a form of sterility which is more or less hereditary, developing in a certain strain as a result of improper inbreeding. It crops out in some strains more frequently than in others. Oestrum is not normal, or is very irregular, or perhaps absent. If there have been several instances of sterility of this nature among the offspring of any given male or female a lethal factor may be suspected. Nothing can be done to overcome this form of sterility in the afflicted animal but an occurrence of the condition in the offspring of its parents can often be avoided by violent outcrossing. This form of sterility may be total or partial. The use of the term 'partial sterility' is, of course, open to question but is here used to describe cases in which the number of offspring at a birth is very small or in cases in which the young are weakly and die shortly before or just after birth, although in the last cases the weakness of offspring may be due to bad management, such as overfeeding or want of exercise and cannot be considered as due to a lethal factor.

UNUSUAL CASES ENCOUNTERED IN FOWL DURING THE PAST YEAR

J. S. Glover, B.V.Sc.

(1) Barred Rock hen. Breathing difficult. Beak kept open and frequent attempts made to dislodge something from throat. Examination revealed no evidence of diphtheria or laryngitis. On post-mortem a grain of buckwheat was found about halfway down the trachea adhering to the mucous membrane.

(2) Barred Rock pullet. Symptoms similar to above case. A small feather was found in the trachea about an inch below the larynx.

(3) Two weeks old chick. A one inch nail puncturing gizzard and heart.

(4) White Leghorn hen. Subcutaneous emphysema involving the entire body, head and neck. Nicks were made with a scalpel in several parts of the skin and the air was pressed out. The hen was kept under observation for a week after this and there was no recurrence of the condition.

(5) Barred Rock hen. Perforated ulcer near juncture of small intestine and ceca. No intestinal parasites were found, nor was there any evidence of a previous parasitic invasion.

(6) Game cock. This bird had received severe injuries while fighting with another cock. When brought here both eyes were entirely closed, the lids being so closely united that the line of union could not be discerned. Under a local anaesthetic an incision was made in the skin covering each eye, and the eyes were found to be uninjured. The bird was sent home with directions to keep the cut surfaces from uniting. About two weeks later the eyes were closed again, and as before the line of union could not be seen. This time, after a slit had been made, a small piece of tissue was removed from both the upper and lower lids. Instructions were given to bathe the cut edges twice a day with a solution of adrenalin until healing was complete. A month later one eye was entirely closed again and the other was almost closed. More tissue was taken out from the lids and the bird kept here under observation for several weeks. Healing of the edges took place rapidly, and although due to contaction the openings were less than normal, the bird was able to see with both eyes, and when finally sent home it seemed unlikely that permanent closure would occur.

(7) Rhode Island Red pullet. Died suddenly. Post-mortem examination revealed torsion of the gut with enteritis. No evidence of parasitism was found. According to our records here, intussusception and torsion of the intestines of chicken are of rare occurrence.

(8) Ten week old chick. Dead on arrival. Trachea contained greenish-yellowish material. The kidneys, lungs and heart were also covered with the substance. Dirty yellowish nodules in the lungs and liver.

A miscroscopical examination showed the mouldy material to be *Aspergillus fumigatus,* the cause of aspergillosis. Although this is not a rare disease this case is cited as no other birds in the pen or flock were affected and for several years no birds affected with this disease have been received here for examination.

(9) Six birds from four different flocks. Skin infection. In all cases *Staphylococcus aureus* was isolated from the lesions which resembled boils.

(10) Trouble occurred on two or three poultry farms following fowl pox vaccination. Protection from the heat of the sun was not afforded the birds, and about eight or ten days days after vaccination several deaths occurred. If vaccinated by the Johnson 'stick' method the birds' resistance is usually lowest about the tenth day after, and it is important that they be provided with shade.

(11) Although unfortunately not rare the danger in the feeding of new grain is not recognized sufficiently. Quite a number of deaths occurred in Ontario during the late summer following the feeding of new wheat. The grain was soft and indigestible but was very palatable. In a large number of instances the birds died with full crops and gizzards, and the intestines also contained a lot of uncrushed grain. A severe inflammation is usually present. Eliminating new grain from the diet results in a clearing up of the condition in a flock in a very short time.

THIRTEENTH
ANNUAL REPORT
OF THE
MINIMUM WAGE BOARD
PROVINCE OF ONTARIO
1933

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1934

To The Honourable Herbert Alexander Bruce,
M.D., R.A.M.C., F.R.C.S., (Eng.)
Lieutenant-Governor of the Province of Ontario.

May It Please Your Honour:

I herewith beg to present for your consideration the thirteenth annual report of the Minimum Wage Board, being that for the year 1933.

Respectfully submitted,

John M. Robb,
Minister of Health and Labour.

February 26, 1934.

THE HONOURABLE J. M. ROBB,
Minister of Labour,
Parliament Buildings, Toronto.

Sir:

I have the honour to submit herewith the thirteenth Annual Report of the Ontario Minimum Wage Board.

Yours faithfully,

R. A. STAPELLS,
Chairman.

ANNUAL REPORT

MINIMUM WAGE BOARD

The principle which underlies all minimum wage laws is to be found in that Biblical saying, nearly two thousand years old, that "the labourer is worthy of his hire". It implies that all workers, men and women, are entitled to live decently upon the remuneration they receive from the work that they do.

As applied to the Minimum Wage Law of Ontario, which specifically protects the women of the Province, it lays down the principle that any woman who gives of her time, of her strength, and of her productive ability to industry, is entitled to receive from that industry sufficient to enable her to live decently, to supply herself with sufficient food, adequate clothing and proper shelter. It is therefore a very simple and compelling principle that underlies the whole philosophy of the Minimum Wage Law.

As a matter of fact, the Board to which is entrusted the administration of the law in this province, has yet to find an employer, or a group of employers, who are not ready to subscribe to this principle. At the same time it must be frankly confessed that there are some employers who, apparently, are not ready to practise what they preach, and, consequently, a Minimum Wage Law is necessary.

The work of the Minimum Wage Board involves always a consideration of many problems that arise from time to time in connection with the operation of the law. The past year, in particular, has produced many problems of an intricate nature, which the Board has not had to face during previous years.

It has not been an easy year. Perhaps, during 1933, we have felt the accumulated effect of the last few years of depressed industrial conditions. In many cases, it has marked the final disapearance of surpluses accumulated by industrial concerns over the period of prosperous years. The resultant necessity of lowering wage levels as a partial means of reducing overhead and overdrafts, and the cutting of wages by some firms to rates beneath our modest levels, in a last desperate effort to keep out of bankruptcy, were two of the major causes that made the task of the Board a difficult one, taxing to the limit the time, judgment and ability of its members. With the advent of better times, following a definite turn towards industrial recovery in this country, the Board anticipates that these problems will become less acute in the coming year, and that organized industry throughout the Province will recognize the importance of protecting their employees, and especially women employees, by making the payment of adequate wages the first step in the process of rehabilitation.

It is idle to deny that during the past few years the spectre of unemployment has stalked abroad throughout the world. In this country as in other nations, and in this Province, the effect of the depression upon employment conditions has been seriously felt, and, although the future shines with a brighter promise for the worker, it will be some time yet before industry can absorb, in the process of recovery, all the men who depend upon it for a livelihood.

With their men-folk out of work, it frequently happened that the women of the household were the only breadwinners in the family. Naturally the wages these women received were more closely scrutinized than they would have been under normal industrial conditions. Consequently, the assistance of the Board has been sought more than ever before.

More than that, the Minimum Wage Law, and the measure of protection that it affords to women workers, have now become generally known, with the natural result that cases of alleged under-payment are being brought to the attention of the Board in increasing numbers, not only by those who consider themselves underpaid, but also by some who think others are being underpaid.

It might be well to emphasize this point. The chief duty of the Minimum Wage Board is to protect the wage rates of the women and girls of the Province. They are the special Clients of the Board and when any complaint comes, anonymous or otherwise, that alleges under-payment of a woman or a girl in Ontario, it is the bounden duty of the Board to respond very promptly and to institute all the necessary enquiries to see that justice is done according to law. This duty we have endeavoured to carry out.

That we have been, to a great extent, successful in this purpose is proven by the fact that we have made more adjustments, instituted more prosecutions, and collected more arrears during 1933 that in any previous year since the Act was passed. As a matter of record, the Minimum Wage Board during the past year made 2,500 adjustments, covering 1,000 firms and collected $9,497.77 in arrears of wages.

The Board feels that it should make clear its own conception of its duty towards employers of female labour throughout the Province.

In the vast payroll of industry in this Province, it is impossible to prevent unintentional and isolated cases of non-observance of the Board's requirements. The Board does not feel that it is bound to prosecute employers who, unwittingly, offend against its orders, and so long as such firms, on request from the Board, bring their wage rolls into complete conformity with the law, and pay such arrears to their employees as may be found due, the Board feels that it should be satisfied.

But, on the other hand, the Board promptly and vigorously prosecutes, and will continue to do so, all employers who, after warning, are guilty of derelictions and who are not inclined to obey the regulations laid down by the Board. In this connection, the Board is gratified to know that the Government of the Province is solidly behind the Board in its determination to enforce the law without fear or favour.

During the thirteen years that the Board has been in existence, there has never been the slightest attempt on the part of Governments to interfere with the operation of the administration of the law by the Minimum Wage Board.

There can be no question that the great majority of employers in Ontario welcome the provisions as well as the wage limit rulings of the Board.

Last year the Board, after careful and full consideration of all the issues involved, decided not to reduce the minimum wage rates that had been in force since 1921. This action on the part of the Board has been more than justified. In the latter part of 1932 and the early part of 1933, it was claimed, by those who sought reductions in our rates, that the cost of living had fallen sufficiently to warrant the very modest levels fixed under the Act being changed. The reply of the Board to that argument was that, in the interest of stability, the Board would have to be convinced that commodity prices in general were down permanently before the Board could agree to any lowering of the rates already set. In the latter part of 1933 commodity prices began a decided trend upward, and no longer, except perhaps in a few isolated cases, is the Board being importuned to change the existing rates. Indeed, one large industry is asking the Board to increase the rates by reducing the number of hours for which minimum rates must be paid.

The Board decided for the first time during the past year to collect wage returns from seasonal canneries, seasonal tobacco plants, co-operative fruit and vegetable associations and office workers outside the City of Toronto. These payrolls, upon examination, have disclosed many interesting facts which will enable the Board during the coming year to enforce its regulations more effectively in these occupations. It is the conviction of the Board that it is only fair that employers who pay good wages of their own free will, and not because they are compelled to, should be protected from the illegitimate competition of those who are not governed by similar ideals. In the pursuance of its duty in administering the Minimum Wage Law, the Board hopes to achieve this purpose.

The experience of the Board during 1933 has made it apparent that some amendments to the Act are desirable, and it is the intention of the Board to ask the Government to bring such amendments before the 1934 Session of the Legislature. These amendments, primarily, will have to do with the number of hours for which the rates fixed under the orders of the Board are to be paid, and the length of time for which arrears may be collected. The Board also desires to suggest to the Government that the women workers of the Province should be still further protected in their jobs by the inclusion of men and boys in any of the orders issued by the Board.

The Board desires to acknowledge with gratitude the great measure of co-operation which it has received in its work of enforcing the Minimum Wage Law in the Province of Ontario from organized labour, from employees, and from employers, as well as from the Government. The Board pledges itself anew to use its best efforts at all times to secure a fair, impartial and efficient administration of the requirements of the Act throughout the Province.

THE BUDGET

Minimum wage levels are determined by the cost of living. It is necessary to determine the least sum upon which a working woman can be expected to support herself. Here is the budget for Toronto as revised several times during 1933:

Item		Cost per year
BOARD AND LODGING at $7.00 per week		$364 00
COTHING:		
Footwear and repairs, 3 pairs $5.00, $4.00, $4.00; bedroom slippers 80c, rubbers 50c, goloshes $1.50, repairs $2.00	$17 80	
Stockings	7 50	
Underwear	8 00	
Nightgowns	4 00	
Costume slips	3 50	
Corsets and brassieres	5 50	
Kimona (two years)	1 00	
Hats	9 00	
Suit (half cost to wear two years) or skirt (one year, $5.00) and light coat (two years $12.50)	11 25	
Winter coat to wear two years	8 25	
Winter dresses	10 00	
Summer dresses, two or three	10 00	
Blouses	7 50	
Sweater (two years)	2 00	
Aprons	2 50	
Handkerchiefs	1 50	
Gloves	3 50	
Scarf	1 00	
Umbrella, to last two years	1 25	
Total expense for clothing		115 05
SUNDRIES:		
Laundry	39 00	
Doctor, dentist, optician	20 00	
Car fare	48 00	
Reading matter	6 00	
Postage and stationery	5 00	
Recreation and amusement	23 00	
Church and charity	10 00	
Incidentals, including tooth brush, comb, soap, tooth paste, talcum powder, nail file, shoe polish, hand lotion, pins, needles, thread, whisk, shoe laces, etc.	20 00	
		171 00
Total expenses for year		$650 05
Clothing per week	$2 21	
Sundries per week	3 29	
Board and lodging per week	7 00	
Total per week		$12 50

The budget is divided into three parts:

CLOTHING.

SUNDRIES.

BOARD AND LODGING.

Clothing—A careful inspection of the clothing items will convince fair-minded readers that no working woman can be expected to get along on any less than the modest amount allowed under this heading, namely $2.21 per week.

Sundries—The same may be said of the items set down for sundries. Some of these amounts, of course, are arbitrary, such as car fare, laundry, etc. There might be some difference of opinion as to the other amounts allowed, but taking them by and large, the Board is of the opinion that $3.29 is the proper figure to be estimated for sundries.

Board and Lodging—The cost of board and lodging for a self-supporting working woman in the Province of Ontario has fluctuated more or less during 1933 but in view of the possibility that it may increase from this time forward the Board decided not to revise its rates.

ADMINISTRATION

"No laws are effective unless enforced so that the administrative work of the Board is vital to its success," thus wrote the first Chairman of this Board in our eighth Annual Report. During 1933 the law was enforced, as has been stated already, more vigorously and more effectively than ever before. The modus operandi follows:

1. By requiring employers to post in a conspicuous place, where all employees may easily read, a card containing the order pertaining to that particular establishment.

   On this card the wage rates are plainly set out and female workers are invited to report confidentially to the Board if they think they are underpaid.

2. By having employers fill out a questionnaire giving:

   (a) The number of hours worked per day,
   (b) The number of hours worked per week,
   (c) The number of employees under 18 years,
   (d) The number of employees over 18 years,
   (e) The number of employees on piecework,
   (f) The number of employees on timework,
   (g) The wages paid per week,
   (h) The total wages paid for a four weeks' period, if on piecework,
   (i) The number of employees on short time.

   The questionnaires must be certified and signed by a member of the firm.

   They are collected once a year and comparisons are made with previous returns, and checked with our orders. Any derelictions are amicably adjusted if possible and if impossible then the offending employers are taken to court.

It has been suggested that this method is ineffective on the ground that the reports of some employers are unreliable, that they can and do misinform us and consequently continue to violate the law and escape detection.

The Board replies that in over twelve years its experience has disclosed that the vast majority of employers throughout the Province give us an honest return; true, some few, decidedly a small minority, have been guilty of misrepresentation but eventually they have been detected and, when we were satisfied the offence was deliberate, the offenders have been prosecuted.

3. By regular calls made by eighteen inspectors from the Factory Inspection Branch of the Department of Labour who are authorized to ascertain if our cards are posted, to examine records and to see that the law is being obeyed.

4. By personal visits of three inspectors specially qualified by experience to handle the delicate negotiations involved in explaining the requirements of our orders, adjusting payrolls to conform to the law, the collection of arrears, and prosecuting those who fail to meet the Board's friendly approaches in these regards.

During 1934 the Board hopes to have the assistance in this Department of one of the outstanding labour men in Canada. This will give us three representatives of labour whose sympathy naturally will be with the employees and thus organized labour can feel that the best interests of the employees will be well protected.

COMPARATIVE STATISTICS

There follow tables covering all industries coming within the scope of our orders. These are made up from wage sheets collected during the year. They give an excellent picture of the number of females employed, wages paid, hours worked, etc. It is interesting to note that according to the Bureau of Statistics, Ottawa, these returns would seem to indicate that we have collected payrolls covering practically all females employed in factories in Ontario.

ORDER NO. 31

This Order deals with laundries, dye-works and dry-cleaning establishments.

In the City of Toronto:

	1932	1933
Number of firms reporting	79	83
Total number of female employees	1,613	1,396
Over 18 years	1,546	1,345
Under 18 years	67	51
Average hours worked normally per week	46.1	47.8
Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	5	....
8– 9	5	....
9–10	47	8
10–11	102	28
11–12	52	32
12–13	744	941
13–14	269	163
14–15	150	95
15–16	94	48
16–18	66	45
18–20	40	14
20–22	18	9
22–up	21	13
Total	1,613	1,396

ORDER NO. 31

This Order deals with laundries, dye-works and dry-cleaning establishments.

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	66	69
Total number of female employees	712	673
Over 18 years	676	648
Under 18 years	36	25
Average hours worked normally per week	48.9	48.
Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	8	9
8– 9	22	6
9–10	3	1
10–11	52	31
11-12	32	27
12–13	376	448
13–14	79	69
14–15	38	27
15–16	41	24
16–18	27	14
18–20	17	4
20–22	9	8
22–up	8	5
Total	712	673

ORDER NO. 31

This Order deals with laundries, dye-works and dry-cleaning establishments.

In places under 30,000 population:

	1932	1933
Number of firms reporting	81	92
Total number of female employees	521	490
Over 18 years	486	466
Under 18 years	35	24
Average hours worked normally per week	48	48

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	11	10
8– 9	8	1
9–10	36	9
10–11	71	46
11–12	194	268
12–13	105	61
13–14	22	25
14–15	14	17
15–16	17	24
16–18	15	7
18–20	11	8
20–22	13	11
22–up	4	3
Total	521	490

ORDERS NOS. 3, 6, 10, 29 — RETAIL STORES

These govern saleswomen in retail stores. The leading chain store systems are included as well as a number of typical stores individually operated. It is a practical impossibility to gather returns from all the retail stores, so the endeavour is made to present a picture which may be taken as generally showing the situation and trend in the several parts of the Province.

ORDER NO. 3

Retail stores:

In the City of Toronto:

	1932	1933
Number of stores reporting	296	358
Total number of female employees	1,291	1,613
Over 18 years	1,223	1,568
Under 18 years	68	45
Average hours worked normally per week	49	47.5

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	4	3
9–10	2	4
10–11	47	115
11–12	44	77
12–13	403	565
13–14	153	180
14–15	175	217
15–16	156	153
16–18	135	144
18–20	92	99
20–22	43	22
22–up	37	34
Total	1,291	1,613

ORDER No. 6

Retail stores:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of stores reporting	202	236
Total number of female employees	2,377	2,544
Over 18 years	2,323	2,470
Under 18 years	54	74
Average hours worked normally per week	49.2	54.6
Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	22	23
9–10	15	21
10–11	144	186
11–12	76	110
12–13	1,182	1,331
13–14	249	268
14–15	196	176
15–16	146	146
16–18	125	111
18–20	94	77
20–22	44	42
22–up	84	53
Total	2,377	2,544

ORDER No. 10

Retail stores:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of stores reporting	298	381
Total number of female employees	2,049	2,486
Over 18 years	1,982	2,367
Under 18 years	67	119
Average hours worked normally per week	49.7	50.1
Weekly rate of wages:	1932	1933
Under $7 00	....	2
7– 8	4	41
8– 9	11	37
9–10	131	282
10–11	296	402
11–12	717	853
12–13	319	373
13–14	128	137
14–15	117	104
15–16	116	104
16–18	81	63
18–20	52	54
20–22	36	14
22–up	41	20
Total	2,049	2,486

Retail stores:

In places under 5,000 population:

	1932	1933
Number of stores reporting	162	230
Total number of female employees	366	582
Over 18 years	353	559
Under 18 years	13	23
Average hours worked normally per week	48.7	56.4

Weekly rate of wages:	1932	1933
Under $7 00	1	17
7– 8	12	33
8– 9	24	67
9–10	90	178
10–11	78	123
11–12	33	39
12–13	46	66
13–14	22	14
14–15	17	12
15–16	19	15
16–18	12	8
18–20	4	3
20–22	4	3
22–up	4	4
Total	366	582

ORDER NO. 29

This Order governs the two largest departmental stores in Toronto. It covers all employees except those working in the restaurant and factory departments.

	1932	1933
Number of firms reporting	2	2
Total number of female employees	3,840	3,567
Over 18 years	3,639	3,417
Under 18 years	201	150
Average hours worked normally per week	48.	48.

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	6
8– 9	30	48
9–10	50	51
10–11	73	136
11–12	77	42
12–13	853	1,392
13–14	966	898
14–15	417	223
15–16	327	193
16–18	565	366
18–20	212	101
20–22	99	38
22–up	171	73
Total	3,840	3,567

ORDERS NOS. 13, 14, 15, 16 — THE TEXTILE TRADES

These are the factories engaged in knitting, weaving and spinning operations.

ORDER NO. 13

Textile trades:

In the City of Toronto:

	1932	1933
Number of firms reporting	55	53
Total number of female employees	2,448	1,946
Over 18 years	2,339	1,868
Under 18 years	109	78
Average hours worked normally per week	45.2	45.4

Weekly rate of wages:	1932	1933
Under $7 00	4	2
7– 8	7	10
8– 9	42	40
9–10	53	54
10–11	104	138
11–12	167	140
12–13	594	596
13–14	344	230
14–15	288	204
15–16	190	141
16–18	419	243
18–20	153	91
20–22	38	19
22–up	45	38
Total	2,448	1,946

ORDER NO. 14

Textile trades:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	24	23
Total number of female employees	3,565	3,099
Over 18 years	3,440	3,035
Under 18 years	125	64
Average hours worked normally per week	47.7	51.5

Weekly rate of wages:	1932	1933
Under $7 00	1	5
7– 8	5	11
8– 9	92	49
9–10	95	182
10–11	146	166
11–12	355	429
12–13	429	501
13–14	461	512
14–15	316	383
15–16	925	371
16–18	391	309
18–20	228	101
20–22	78	45
22–up	43	35
Total	3,565	3,099

ORDER NO. 15

Textile trades:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	63	66
Total number of female employees	4,989	5,177
Over 18 years	4,459	4,776
Under 18 years	530	401
Average hours worked normally per week	50.	51.2

Weekly rate of wages:	1932	1933
Under $7 00	34	40
7- 8	99	114
8- 9	148	153
9-10	373	378
10-11	416	459
11-12	1,131	1,399
12-13	620	734
13-14	654	630
14-15	500	460
15-16	369	274
16-18	375	323
18-20	132	110
20-22	51	44
22-up	87	59
Total	4,989	5,177

ORDER NO. 16

Textile trades:

In places under 5,000 population:

	1932	1933
Number of firms reporting	56	56
Total number of female employees	2,362	2,090
Over 18 years	2,087	1,921
Under 18 years	275	169
Average hours worked normally per week	50.6	50.2

Weekly rate of wages:	1932	1933
Under $7 00	44	52
7- 8	72	92
8- 9	151	131
9-10	253	230
10-11	515	478
11-12	350	288
12-13	241	222
13-14	169	257
14-15	222	115
15-16	130	78
16-18	140	113
18-20	43	29
20-22	24	3
22-up	8	2
Total	2,362	2,090

ORDERS NOS. 17, 18, 19, 20 — THE NEEDLE TRADES

These are the factories whose chief implement is the sewing machine:

ORDER NO. 17

Needle trades:

In the City of Toronto:

	1932	1933
Number of firms reporting	445	456
Total number of female employees	7,479	7,154
Over 18 years	7,332	7,027
Under 18 years	147	127
Average hours worked normally per week	43.1	44.06

Weekly rate of wages:	1932	1933
Under $7 00	32	27
7- 8	87	54
8- 9	233	143
9-10	242	163
10-11	424	604
11-12	409	431
12-13	1,735	1,391
13-14	1,014	1,372
14-15	642	937
15-16	578	743
16-18	786	536
18-20	533	330
20-22	308	189
22-up	456	234
Total	7,479	7,154

ORDER NO. 18

Needle trades:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	85	73
Total number of female employees	674	568
Over 18 years	660	561
Under 18 years	14	7
Average hours worked normally per week	44.3	44.4

Weekly rate of wages:	1932	1933
Under $7 00	5	8
7- 8	21	15
8- 9	39	35
9-10	44	33
10-11	57	47
11-12	124	114
12-13	90	106
13-14	53	34
14-15	44	41
15-16	56	43
16-18	49	40
18-20	39	23
20-22	23	19
22-up	30	10
Total	674	568

Order No. 19

Needle trades:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	55	52
Total number of female employees	1,602	1,409
Over 18 years	1,539	1,347
Under 18 years	63	62
Average hours worked normally per week	44.	45.7

Weekly rate of wages:	1932	1933
Under $7 00	29	42
7– 8	41	57
8– 9	87	68
9–10	118	113
10–11	163	105
11–12	288	375
12–13	230	219
13–14	145	102
14–15	90	78
15–16	102	77
16–18	123	62
18–20	70	59
20–22	47	25
22–up	69	27
Total	1,602	1,409

Order No. 20

Needle trades:

In places under 5,000 population:

	1932	1933
Number of firms reporting	18	20
Total number of female employees	216	197
Over 18 years	206	187
Under 18 years	10	10
Average hours worked normally per week	45.	47.3

Weekly rate of wages:	1932	1933
Under $7 00	7	6
7– 8	10	13
8– 9	10	13
9–10	14	21
10–11	43	58
11–12	45	31
12–13	19	22
13–14	36	10
14–15	7	4
15–16	4	7
16–18	9	9
18–20	7	2
20–22	2	....
22–up	3	1
Total	216	197

ORDERS NOS. 21, 22, 23, 24

These govern wages in the following trades: Drug, chemicals, pharmaceutical or toilet preparations, dyes, inks, shoe blacking or polish, mucilage, medicines, non-corrosive acids and non-hazardous chemicals or chemical preparations:

ORDER NO. 21

Drug and chemical factories, etc.:

In the City of Toronto:

	1932	1933
Number of firms reporting	83	88
Total number of female employees	737	732
Over 18 years	703	692
Under 18 years	34	40
Average hours worked normally per week	43.5	43.8

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	1	....
8– 9	8	16
9–10	18	13
10–11	48	44
11–12	24	32
12–13	204	269
13–14	119	107
14–15	86	70
15–16	71	70
16–18	81	58
18–20	21	19
20–22	21	12
22–up	35	22
Total	737	732

ORDER NO. 22

Drug and chemical factories, etc.:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	28	27
Total number of female employees	249	213
Over 18 years	240	209
Under 18 years	9	4
Average hours worked normally per week	44.	42.2

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	27	3
10–11	13	14
11–12	71	76
12–13	42	39
13–14	21	12
14–15	22	18
15–16	15	17
16–18	10	11
18–20	8	9
20–22	9	7
22–up	11	7
Total	249	213

Order No. 23

Drug and chemical factories, etc.:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	13	20
Total number of female employees	140	232
Over 18 years	134	227
Under 18 years	6	5
Average hours worked normally per week	43.5	46.8

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7- 8	1	....
8- 9	....	2
9-10	2	29
10-11	6	27
11-12	26	66
12-13	17	17
13-14	34	17
14-15	15	30
15-16	16	8
16-18	7	19
18-20	6	8
20-22	3	4
22-up	7	5
Total	140	232

Order No. 24

Drug and chemical factories, etc.:

In places having less than 5,000 population:

	1932	1933
Number of firms reporting	13	6
Total number of female employees	125	100
Over 18 years	125	99
Under 18 years	....	1
Average hours worked normally per week	42.3	45.

Weekly rate of wages:	1932	1933
Under $7 00	1	....
7- 8	....	1
8- 9	8	7
9-10	10	9
10-11	34	37
11-12	28	21
12-13	12	7
13-14	7	7
14-15	4	3
15-16	5	3
16-18	7	2
18-20	3	2
20-22	2	1
22-up	4	....
Total	125	100

ORDER No. 28

These are the factories engaged in the boot and shoe and other leather trades:

Leather factories:

In the City of Toronto:

	1932	1933
Number of firms reporting	35	38
Total number of female employees	559	541
Over 18 years	500	481
Under 18 years	59	60
Average hours worked normally per week	45.3	45.8

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	3	....
8– 9	43	49
9–10	18	16
10–11	38	51
11–12	24	19
12–13	128	169
13–14	53	82
14–15	42	49
15–16	42	41
16–18	67	41
18–20	63	17
20–22	17	1
22–up	21	6
Total	559	541

ORDER No. 28

Leather factories:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	6	6
Total number of female employees	195	229
Over 18 years	186	210
Under 18 years	9	19
Average hours worked normally per week	48.	48.1

Weekly rate of wages:	1932	1933
Under $7 00	1	....
7– 8	9	4
8– 9	5	13
9–10	14	33
10–11	7	10
11–12	28	26
12–13	7	18
13–14	12	12
14–15	13	7
15–16	21	20
16–18	24	19
18–20	25	23
20–22	11	20
22–up	18	24
Total	195	229

ORDER No. 28

Leather factories:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	28	26
Total number of female employees	605	661
Over 18 years	546	591
Under 18 years	59	70
Average hours worked normally per week	49.6	48.6

Weekly rate of wages:	1932	1933
Under $7 00	10	1
7- 8	13	29
8- 9	35	22
9-10	59	63
10-11	38	50
11-12	93	106
12-13	68	60
13-14	54	68
14-15	47	57
15-16	54	42
16-18	59	82
18-20	37	29
20-22	15	22
22-up	23	30
Total	605	661

ORDER No. 28

Leather factories:

In places under 5,000 population:

	1932	1933
Number of firms reporting	22	19
Total number of female employees	594	575
Over 18 years	498	506
Under 18 years	96	69
Average hours worked normally per week	48.7	49.2

Weekly rate of wages:	1932	1933
Under $7 00	23	22
7- 8	45	40
8- 9	39	51
9-10	87	59
10-11	88	142
11-12	73	41
12-13	60	51
13-14	50	42
14-15	30	33
15-16	32	29
16-18	27	26
18-20	23	17
20-22	5	7
22-up	12	15
Total	594	575

Order No. 30

These factories make electrical goods:

In the City of Toronto:

	1932	1933
Number of firms reporting	34	32
Total number of female employees	1,005	719
Over 18 years	966	706
Under 18 years	39	13
Average hours worked normally per week	45.6	46.3

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	2	1
9–10	23	5
10–11	16	16
11–12	136	91
12–13	259	187
13–14	166	114
14–15	206	132
15–16	58	76
16–18	82	55
18-20	42	25
20–22	8	7
22–up	7	10
Total	1,005	719

Order No. 30

Factories making electrical goods:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	12	9
Total number of female employees	592	508
Over 18 years	573	502
Under 18 years	19	6
Average hours worked normally per week	48.5	47.9

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	6	16
10–11	8	39
11–12	46	323
12–13	119	23
13–14	91	22
14–15	81	17
15–16	73	21
16–18	81	30
18–20	56	7
20–22	18	7
22–up	13	3
Total	592	508

ORDER NO. 30

Factories making electrical goods:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	8	9
Total number of female employees	318	251
Over 18 years	306	247
Under 18 years	12	4
Average hours worked normally per week	48.3	48.4

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	2
9–10	17	8
10–11	31	21
11–12	70	82
12–13	45	63
13–14	41	27
14–15	47	13
15–16	26	9
16–18	22	17
18–20	4	4
20–22	3	3
22–up	12	2
Total	318	251

ORDER NO. 30

Factories making electrical goods

In places under 5,000 population:

	1932	1933
Number of firms reporting	6	7
Total number of female employees	90	216
Over 18 years	90	196
Under 18 years	....	20
Average hours worked normally per week	45.8	46.5

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	2	2
8– 9	2	9
9–10	3	74
10–11	44	65
11–12	3	19
12–13	25	24
13–14	3	15
14–15	3	3
15–16	2	1
16–18	....	3
18–20	2	1
20–22	1.	....
22–up	....	....
Total	90	216

ORDER NO. 34

The food trades, including the making of confectionery, biscuit, chocolate, jam, gum, grocery specialties, crushed fruit, syrup, pickles, together with bakeries, packing houses and all allied industries (excepting seasonal canneries).

Factories manufacturing foods:
In the City of Toronto:

	1932	1933
Number of firms reporting	125	121
Total number of female employees	2,532	2,527
Over 18 years	2,368	2,399
Under 18 years	164	128
Average hours worked normally per week	48.8	47.8
Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	14	59
9–10	43	29
10–11	119	206
11–12	154	134
12–13	889	1,168
13–14	455	261
14–15	269	219
15–16	209	183
16–18	185	125
18–20	116	92
20–22	37	31
22–up	42	30
Total	2,532	2,527

ORDER NO. 34

Factories manufacturing foods:
In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	56	57
Total number of female employees	756	780
Over 18 years	692	733
Under 18 years	64	47
Average hours worked normally per week	47.1	48.1
Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	14	10
9–10	30	36
10–11	66	44
11–12	155	199
12–13	108	193
13–14	113	93
14–15	119	98
15–16	56	57
16–18	55	45
18–20	26	12
20–22	4	2
22–up	10	1
Total	756	780

Order No. 34

Factories manufacturing foods:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	51	46
Total number of female employees	620	630
Over 18 years	532	573
Under 18 years	88	57
Average hours worked normally per week	48.2	48.6

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	11	6
8– 9	22	34
9–10	53	48
10–11	126	82
11–12	140	276
12–13	109	69
13–14	45	27
14–15	30	19
15–16	23	25
16–18	21	17
18–20	28	13
20–22	7	10
22–up	5	4
Total	620	630

Order No. 34

Factories manufacturing foods:

In places under 5,000 population:

	1932	1933
Number of firms reporting	34	35
Total number of female employees	329	386
Over 18 years	309	356
Under 18 years	20	30
Average hours worked normally per week	52.	50.7

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	2	3
8– 9	17	15
9–10	19	12
10–11	42	72
11–12	73	101
12–13	15	144
13–14	21	4
14–15	110	25
15–16	12	2
16–18	4	3
18–20	7	2
20–22	2	2
22–up	5	1
Total	329	386

ORDER NO. 35

Miscellaneous Order: governing all factory trades not dealt with in other Orders (except seasonal canneries).

Miscellaneous trades:

In the City of Toronto:

	1932	1933
Number of firms reporting	138	153
Total number of female employees	1,338	1,458
Over 18 years	1,272	1,389
Under 18 years	66	69
Average hours worked normally per week	45.4	45.4

Weekly rate of wages:	1932	1933
Under $7 00	1	1
7– 8	3	....
8– 9	28	29
9–10	36	19
10–11	139	173
11–12	115	82
12–13	373	530
13–14	170	207
14–15	156	135
15–16	106	107
16–18	112	93
18–20	41	39
20–22	31	20
22–up	27	23
Total	1,338	1,458

ORDER NO. 35

Miscellaneous trades:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	63	69
Total number of female employees	601	689
Over 18 years	584	671
Under 18 years	17	18
Average hours worked normally per week	46.5	46.8

Weekly rate of wages:	1932	1933
Under $7 00	1	....
7– 8	4	6
8– 9	12	10
9–10	61	38
10–11	42	39
11–12	124	201
12–13	115	120
13–14	35	65
14–15	30	108
15–16	20	28
16–18	115	35
18–20	22	22
20–22	7	11
22–up	13	6
Total	601	689

ORDER NO. 35

Miscellaneous trades:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	87	91
Total number of female employees	1,075	1,161
Over 18 years	985	1,099
Under 18 years	90	62
Average hours worked normally per week	45.8	47.7

Weekly rate of wages:	1932	1933
Under $7 00	8	4
7– 8	28	12
8– 9	38	26
9–10	83	88
10–11	124	160
11–12	320	380
12–13	164	164
13–14	84	73
14–15	62	92
15–16	45	70
16–18	69	45
18–20	26	23
20–22	8	4
22–up	16	20
Total	1,075	1,161

ORDER NO. 35

Miscellaneous trades:

In places under 5,000 population:

	1932	1933
Number of firms reporting	63	70
Total number of female employees	866	873
Over 18 years	796	828
Under 18 years	70	45
Average hours worked normally per week	47.1	48.7

Weekly rate of wages:	1932	1933
Under $7 00	19	14
7– 8	16	20
8– 9	82	95
9–10	60	82
10–11	151	248
11–12	122	107
12–13	102	65
13–14	69	53
14–15	154	135
15–16	33	16
16–18	37	19
18–20	8	14
20–22	6	1
22–up	7	4
Total	866	873

Order No. 36

Tobacco factories:

In the City of Toronto:

	1932	1933
Number of firms reporting	4	7
Total number of female employees	275	360
Over 18 years	267	353
Under 18 years	8	7
Average hours worked normally per week	42.2	45.9

Weekly rate of wages:	1932	1933
Under $7 00	4	....
7– 8	4	....
8– 9	15	2
9–10	71	1
10–11	5	94
11–12	10	19
12–13	17	53
13–14	4	15
14–15	16	28
15–16	98	26
16–18	12	70
18–20	13	25
20–22	5	13
22–up	1	14
Total	275	360

Order No. 36

Tobacco factories:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	6	4
Total number of female employees	369	258
Over 18 years	354	255
Under 18 years	15	3
Average hours worked normally per week	43.	44.5

Weekly rate of wages:	1932	1933
Under $7 00	5	....
7– 8	4	2
8– 9	5	1
9–10	25	5
10–11	63	55
11–12	170	121
12–13	37	27
13–14	20	13
14–15	22	8
15–16	16	16
16–18	....	5
18–20	1	3
20–22	....	....
22–up	1	2
Total	369	258

ORDER No. 36

Tobacco factories:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	3	1
Total number of female employees	381	169
Over 18 years	373	165
Under 18 years	8	4
Average hours worked normally per week	48.6	50.

Weekly rate of wages:	1932	1933
Under $7 00	11	3
7– 8	27	4
8– 9	64	19
9–10	55	29
10–11	22	22
11–12	69	32
12–13	42	19
13–14	38	10
14–15	8	9
15–16	29	7
16–18	1	9
18–20	....	2
20–22	15	4
22–up	....	....
Total	381	169

ORDER No. 37

Factories making rubber goods:

In the City of Toronto:

	1932	1933
Number of firms reporting	7	7
Total number of female employees	420	331
Over 18 years	411	327
Under 18 years	9	4
Average hours worked normally per week	44.2	44.2

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	3	1
9–10	2	2
10–11	3	29
11–12	9	5
12–13	51	57
13–14	33	98
14–15	53	64
15–16	27	35
16–18	118	33
18–20	96	3
20–22	15	1
22–up	10	3
Total	420	331

ORDER NO. 37

Factories making rubber goods:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	1	1
Total number of female employees	52	57
Over 18 years	52	57
Under 18 years	....	....
Average hours worked normally per week	40	40

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	1
8– 9	3	5
9–10	2	....
10–11	4	....
11–12	10	9
12–13	14	13
13–14	5	13
14–15	3	11
15–16	3	4
16–18	7	1
18–20	....	....
20–22	....	....
22–up	1	....
Total	52	57

ORDER NO. 37

Factories making rubber goods:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	10	9
Total number of female employees	1,098	1,232
Over 18 years	1,049	1,150
Under 18 years	49	82
Average hours worked normally per week	45.2	49.

Weekly rate of wages:	1932	1933
Under $7 00	22	10
7– 8	47	22
8– 9	80	52
9–10	130	96
10–11	98	165
11–12	282	421
12–13	92	230
13–14	256	114
14–15	34	48
15–16	25	37
16–18	14	30
18–20	15	6
20–22	2	....
22–up	1	1
Total	1,098	1,232

ORDER NO. 37

Factories making rubber goods:

In places under 5,000 population:

	1932	1
Number of firms reporting	3	4
Total number of female employees	60	93
Over 18 years	59	87
Under 18 years	1	6
Average hours worked normally per week	49.8	45.6

Weekly rate of wages:	1932	1933
Under $7 00	....	2
7– 8	....	....
8– 9	3	13
9–10	1	5
10–11	9	9
11–12	4	17
12–13	10	13
13–14	9	15
14–15	4	7
15–16	7	5
16–18	7	5
18–20	5	2
20–22	1	....
22–up	....	....
Total	60	93

ORDER NO. 38

Factories making jewellery:

In the City of Toronto:

	1932	1933
Number of firms reporting	17	16
Total number of female employees	143	135
Over 18 years	131	130
Under 18 years	12	5
Average hours worked normally per week	44.9	44.7

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	1
8– 9	6	1
9–10	4	9
10–11	7	11
11–12	6	6
12–13	27	32
13–14	28	23
14–15	21	23
15–16	15	12
16–18	16	7
18–20	3	3
20–22	6	5
22–up	4	2
Total	143	135

ORDER NO. 38

Factories making jewellery:

In places of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	6	6
Total number of female employees	17	24
Over 18 years	16	23
Under 18 years	1	1
Average hours worked normally per week	46.5	44.2

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	2	....
8– 9	4	2
9–10	....	2
10–11	3	2
11–12	....	5
12–13	2	3
13–14	....	1
14–15	2	4
15–16	1	2
16–18	2	1
18–20	1	2
20–22	....	....
22–up	....	....
Total	17	24

ORDER NO. 38

Factories making jewellery:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	8	9
Total number of female employees	107	85
Over 18 years	101	84
Under 18 years	6	1
Average hours worked normally per week	48.3	47.6

Weekly rate of wages:	1932	1933
Under $7 00	....	1
7– 8	....	....
8– 9	....	1
9–10	4	4
10–11	12	5
11–12	25	38
12–13	17	11
13–14	11	7
14–15	9	6
15–16	10	3
16–18	6	5
18–20	2	2
20–22	5	2
22–up	6	....
Total	107	85

ORDER NO. 39

The paper trades, which include printing, bookbinding, paper box making, paper bag making, manufacturing stationery and other trades making paper or paper products.

Paper trades:

In the City of Toronto:

	1932	1933
Number of firms reporting	191	194
Total number of female employees	2,416	2,108
Over 18 years	2,318	2,055
Under 18 years	98	53
Average hours worked normally per week	44.6	45.6

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7- 8	2	3
8- 9	24	25
9-10	61	47
10-11	103	108
11-12	77	68
12-13	484	541
13-14	243	247
14-15	253	195
15-16	203	251
16-18	524	372
18-20	172	101
20-22	103	55
22-up	167	95
Total	2,416	2,108

ORDER NO. 39

Paper trades:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	68	68
Total number of female employees	1,137	1,335
Over 18 years	1,106	1,040
Under 18 years	31	295
Average hours worked normally per week	46.5	45.7

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7- 8	2	1
8- 9	17	268
9-10	22	58
10-11	55	60
11-12	303	289
12-13	189	197
13-14	116	127
14-15	119	129
15-16	98	81
16-18	94	54
18-20	42	26
20-22	20	15
22-up	60	30
Total	1,137	1,335

ORDER NO. 39

Paper trades:

In towns and cities of from 5,000 to 30,000 population:

	1932	1933
Number of firms reporting	75	75
Total number of female employees	665	615
Over 18 years	634	602
Under 18 years	31	13
Average hours worked normally per week	47.4	47.5

Weekly rate of wages:	1932	1933
Under $7 00	1	....
7– 8	8	5
8– 9	9	7
9–10	29	16
10–11	51	30
11–12	210	179
12–13	99	98
13–14	50	74
14–15	42	46
15–16	39	49
16–18	46	42
18–20	26	24
20–22	17	10
22–up	38	35
Total	665	615

ORDER NO. 39

Paper trades:

In places under 5,000 population:

	1932	1933
Number of firms reporting	66	55
Total number of female employees	317	281
Over 18 years	302	275
Under 18 years	15	6
Average hours worked normally per week	46.5	47.3

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	2	2
8– 9	2	2
9–10	14	16
10–11	24	58
11–12	23	45
12–13	57	45
13–14	29	22
14–15	50	19
15–16	52	17
16–18	29	34
18–20	15	10
20–22	10	6
22–up	10	5
Total	317	281

Order No. 27

Hotels, restaurants and refreshment rooms:

In the City of Toronto:

	1932	1933
Number of firms reporting	203	252
Total number of female employees	2,518	2,590
Over 18 years	2,493	2,575
Under 18 years	25	15
Average hours worked normally per week	51.3	49.5

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	....	....
10–11	....	....
11–12	1	1
12–13	410	814
13–14	825	616
14–15	398	393
15–16	207	237
16–18	373	311
18–20	163	93
20–22	64	68
22–up	77	57
Total	2,518	2,590

The rates appearing in this summary include the cost of board and lodging.

Order No. 46

Hotels, restaurants and refreshment rooms:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	121	125
Total number of female employees	732	648
Over 18 years	728	643
Under 18 years	4	5
Average hours worked normally per week	52.	49.6

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	....	....
10–11	....	....
11–12	2	....
12–13	382	423
13–14	120	89
14–15	94	64
15–16	35	28
16–18	49	25
18–20	27	11
20–22	8	3
22–up	15	5
Total	732	648

The rates appearing in this summary include the cost of board and lodging.

ORDER No. 46

Hotels, restaurants and refreshment rooms:

In towns and cities of from 10,000 to 30,000 population:

	1932	1933
Number of firms reporting	161	190
Total number of female employees	807	831
Over 18 years	793	822
Under 18 years	14	9
Average hours worked normally per week	50.9	47.5

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	....	....
10–11	....	2
11–12	312	472
12–13	201	134
13–14	83	74
14–15	85	69
15–16	31	20
16–18	37	32
18–20	26	16
20–22	5	6
22–up	27	6
Total	807	831

The rates appearing in this summary include the cost of board and lodging.

ORDER No. 46

Hotels, restaurants and refreshment rooms:

In towns and cities of from 4,000 to 10,000 population:

	1932	1933
Number of firms reporting	129	150
Total number of female employees	434	449
Over 18 years	426	437
Under 18 years	8	12
Average hours worked normally per week	52.5	50.4

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	....
9–10	1	....
10–11	80	141
11–12	156	134
12–13	68	68
13–14	59	45
14–15	26	25
15–16	12	7
16–18	15	16
18–20	9	6
20–22	4	....
22–up	4	7
Total	434	449

The rates appearing in this summary include the cost of board and lodging.

ORDER NO. 41

Custom millinery:

In the City of Toronto:

	1932	1933
Number of firms reporting	39	37
Total number of female employees	252	256
Over 18 years	244	248
Under 18 years	8	8
Average hours worked normally per week	47.5	47.5

Weekly rate of wages:	1932	1933
Under $7 00	1	6
7– 8	5	3
8– 9	8	5
9–10	4	3
10–11	7	8
11–12	4	1
12–13	38	55
13–14	24	27
14–15	17	18
15–16	28	37
16–18	38	39
18–20	19	18
20–22	18	9
22–up	41	27
Total	252	256

The lower rates outlined in this summary are for apprentices.

ORDER NO. 43

Custom millinery:

In places of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	39	38
Total number of female employees	91	94
Over 18 years	89	92
Under 18 years	2	2
Average hours worked normally per week	47.9	48.6

Weekly rate of wages:	1932	1933
Under $7 00	2	4
7– 8	....	....
8– 9	....	1
9–10	....	1
10–11	6	2
11–12	3	2
12–13	19	36
13–14	6	9
14–15	10	3
15–16	15	20
16–18	8	4
18–20	8	4
20–22	5	3
22–up	9	5
Total	91	94

The lower rates outlined in this summary are for apprentices.

ORDER NO. 45

Custom millinery:

In towns and cities of from 4,000 to 30,000 population:

	1932	1933
Number cf firms reporting	41	36
Total number of female employees	88	78
Over 18 years	86	78
Under 18 years	2	....
Average hours worked normally per week	48.3	48.9

Weekly rate of wages:	1932	1933
Under $7 00	4	4
7– 8	....	1
8– 9	....	....
9–10	2	2
10–11	9	8
11–12	6	5
12–13	12	15
13–14	3	6
14–15	4	3
15–16	13	12
16–18	4	5
18–20	8	8
20–22	11	6
22–up	12	3
Total	88	78

The lower rates outlined in this summary are for apprentices.

ORDER NO. 42

Hairdressing and beauty parlours:

In the City of Toronto:

	1932	1933
Number of firms reporting	85	88
Total number of female employees	321	375
Over 18 years	315	367
Under 18 years	6	8
Average hours worked normally per week	48.3	47.1

Weekly rate of wages:	1932	1933
Under $7 00	4	9
7– 8	1	....
8– 9	8	19
9–10	1	3
10–11	14	17
11–12	8	1
12–13	58	103
13–14	19	27
14–15	18	27
15–16	56	50
16–18	33	41
18–20	33	29
20–22	24	18
22–up	44	31
Total	321	375

ORDER NO. 44

Hairdressing and beauty parlours:

In cities of 30,000 population or over, excepting Toronto:

	1932	1933
Number of firms reporting	50	47
Total number of female employees	119	105
Over 18 years	118	104
Under 18 years	1	1
Average hours worked normally per week	47.9	47.5

Weekly rate of wages:	1932	1933
Under $7 00	5	1
7– 8	....	1
8– 9	4	4
9–10	....	....
10–11	7	6
11–12	5	2
12–13	28	37
13–14	....	....
14–15	7	6
15–16	21	10
16–18	13	9
18–20	8	13
20–22	11	8
22–up	10	8
Total	119	105

ORDER NO. 47

Factories operating seasonally, canning, packing and evaporating fruits and vegetables:

In places under 30,000 population in the Province:

	1933
Number of firms reporting	50
Total number of female employees	1,301
Over 18 years and under 60 years	1,276
Under 18 years and over 60 years	25

Weekly rate of wages: 1933

Over 18 years and under 60 years:

Under 2,000 population —	575	receive	18c per hour
2,000 to 5,000 " —	451	"	20c " "
5,000 to 30,000 " —	250	"	22c " "
	1,276		

Under 18 years and over 60 years:

Under 2,000 population —	6	receive	15c per hour
2,000 to 5,000 " —	1	receives	17c " "
5,000 to 30,000 " —	18	receive	18c " "
	25		

These statistics were collected for the first time in 1933.

ORDER NO. 25

Office workers:

In the City of Toronto:

	1932	1933
Number of firms reporting	74	552
Total number of female employees	3,128	9,513
Over 18 years	3,109	9,446
Under 18 years	19	67
Average hours worked normally per week	39.5	44.2

Weekly rate of wages:	1932	1933
Under $7 00	....	....
7– 8	....	....
8– 9	....	3
9–10	....	16
10–11	17	132
11–12	57	84
12–13	149	1,225
13–14	214	751
14–15	186	763
15–16	236	1,696
16–18	671	1,680
18–20	463	1,025
20–22	380	701
22–up	755	1,437
Total	3,128	9,513

ORDER NO. 26

Office workers:

In cities of 30,000 population or over, excepting Toronto:

	1933
Number of firms reporting	187
Total number of female employees	2,106
Over 18 years	2,097
Under 18 years	9
Average hours worked normally per week	45.8

Weekly rate of wages:	1933
Under $7 00	....
7– 8	....
8– 9	3
9–10	3
10–11	40
11–12	60
12–13	230
13–14	144
14–15	100
15–16	196
16–18	391
18–20	354
20–22	219
22–up	366
Total	2,106

ORDER NO. 26

Office workers:

In towns and cities of from 5,000 to 30,000 population:

	1933
Number of firms reporting	257
Total number of female employees	1,158
Over 18 years	1,152
Under 18 years	6
Average hours worked normally per week	47.9

Weekly rate of wages:	1933
Under $7 00	....
7– 8	....
8– 9	9
9–10	26
10–11	62
11–12	124
12–13	128
13–14	105
14–15	69
15–16	102
16–18	151
18–20	105
20–22	104
22–up	173
Total	1,158

ORDER NO. 26

Office workers:

In places under 5,000 population:

	1933
Number of firms reporting	99
Total number of female employees	528
Over 18 years	524
Under 18 years	4
Average hours worked normally per week	46.6

Weekly rate of wages:	1933
Under $7 00	2
7– 8	3
8– 9	12
9–10	20
10–11	46
11–12	38
12–13	51
13–14	49
14–15	21
15–16	49
16–18	62
18–20	50
20–22	41
22–up	84
Total	528

The following tables indicate the number of firms reporting, number of women employed, and the average weekly hours worked for the 5-year period from 1929 to 1933 inclusive:—

ORDER NO. 31

This Order deals with laundries, dye-works and dry-cleaning establishments.

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	51	61	79	79	83
Total number of female employees.......	1,736	1,763	1,696	1,613	1,396
Average hours worked normally per week.	46.1	46.5	46.8	46.1	47.8

In cities of more than 30,000 population, excepting Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	48	52	57	66	69
Total number of female employees.......	669	648	688	712	673
Average hours worked normally per week.	48.3	48.4	48.	48.9	48.

In places having less than 30,000 population:

	1929	1930	1931	1932	1933
Number of firms reporting..............	61	65	74	81	92
Total number of female employees.......	618	613	572	521	490
Average hours worked normally per week.	50.	49.5	48.3	48.	48.

ORDER NO. 3

Retail stores:

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of stores reporting.............	179	225	286	296	358
Total number of female employees.......	1,357	1,435	1,492	1,291	1,613
Average hours worked normally per week.	48.7	50.5	49.1	49.	47.5

ORDER NO. 6

Retail stores:

In cities of 30,000 or over, excepting Toronto:

	1929	1930	1931	1932	1933
Number of stores reporting.............	103	173	221	202	236
Total number of female employees.......	1,909	2,684	2,619	2,377	2,544
Average hours worked normally per week.	48.	51.2	49.5	49.2	56.4

ORDER NO. 10

In towns and cities from 5,000 to 30,000 population:

	1929	1930	1931	1932	1933
Number of stores reporting.............	183	242	259	298	381
Total number of female employees.......	2,078	2,183	2,143	2,049	2,486
Average hours worked normally per week.	48.5	49.9	49.8	49.7	50.1

In places under 5,000 population:

	1929	1930	1931	1932	1933
Number of stores reporting..............	101	137	169	162	230
Total number of female employees........	437	442	524	366	582
Average hours worked normally per week.	48.7	52.01	51.2	48.7	56.4

ORDER NO. 29

This order governs departmental stores in Toronto having more than 150 employees:

Number of firms reporting..............	2	2	2	2	2
Total number of female employees........	4,916	4,455	3,850	3,840	3,567
Average hours worked normally per week.	48.	48.	48.	48.	48.

ORDER NO. 13

The Textile Trades:

In the City of Toronto:

Number of firms reporting..............	43	46	47	55	53
Total number of female employees........	2,835	2,784	2,887	2,448	1,946
Average hours worked normally per week.	46.2	45.6	45.3	45.2	45.4

ORDER NO. 14

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	27	26	25	24	23
Total number of female employees........	4,273	4,198	3,603	3,565	3,099
Average hours worked normally per week.	48.7	48.2	48.1	47.7	51.5

ORDER NO. 15

In towns of from 5,000 to 30,000 population:

Number of firms reporting..............	67	64	64	63	66
Total number of female employees........	6,245	5,653	5,048	4,989	5,177
Average hours worked normally per week.	50.3	50.2	50.7	50.	51.2

ORDER NO. 16

In places having less than 5,000 population:

Number of firms reporting..............	62	59	59	56	56
Total number of female employees........	2,577	2,579	2,516	2,362	2,090
Average hours worked normally per week.	51.4	51.8	51.2	50.6	50.2

ORDER NO. 17

The Needle Trades:

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	465	439	461	445	456
Total number of female employees.......	9,663	9,034	8,508	7,479	7,154
Average hours worked normally per week.	44.1	43.3	43.4	43.1	44.06

ORDER NO. 18

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	83	82	87	85	73
Total number of female employees.......	978	875	755	674	568
Average hours worked normally per week.	46.4	46.2	45.9	44.3	44.4

ORDER NO. 19

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	58	54	56	55	52
Total number of female employees.......	1,965	1,733	1,651	1,602	1,409
Average hours worked normally per week.	46.9	46.4	45.	44.	45.7

ORDER NO. 20

In places having less than 5,000 population:

Number of firms reporting..............	23	22	22	18	20
Total number of female employees.......	258	276	245	216	197
Average hours worked normally per week.	47.1	46.2	45.5	45.	47.3

ORDER NO. 21

This governs wages in the following trades:

Drugs, chemicals, pharmaceutical, or toilet preparations, dyes, inks, shoe blacking or polish, mucilage, medicines, non-corrosive acids and non-hazardous chemicals or chemical preparations.

ORDER NO. 21

In the City of Toronto:

Number of firms reporting..............	83	78	73	83	88
Total number of female employees.......	845	764	799	737	732
Average hours worked normally per week.	43.9	43.9	45.	43.5	43.8

ORDER NO. 22

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	26	27	26	28	27
Total number of female employees.......	248	243	220	249	213
Average hours worked normally per week.	44.3	44.5	44.07	44.	42.2

ORDER NO. 23

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	12	11	14	13	20
Total number of female employees.......	154	145	145	140	232
Average hours worked normally per week.	43.7	44.4	45.2	43.5	46.8

ORDER NO. 24

In places having less than 5,000 population:

Number of firms reporting..............	13	12	14	13	6
Total number of female employees.......	138	182	151	125	100
Average hours worked normally per week.	47.	45.6	44.6	42.3	45.

ORDER NO. 28

Boot and Shoe and other Leather Trades:

In the City of Toronto:

Number of firms reporting..............	41	35	34	35	38
Total number of female employees.......	702	549	578	559	541
Average hours worked normally per week.	44.9	44.9	44.8	45.3	45.8

In cities over 30,000 population, excepting Toronto:

Number of firms reporting..............	11	8	7	6	6
Total number of female employees.......	212	174	161	195	229
Average hours worked normally per week.	47.5	48.	47.9	48.	48.1

In places of from 5,000 to 30,000 population:

Number of firms reporting..............	32	32	30	28	26
Total number of female employees.......	780	656	623	605	661
Average hours worked normally per week.	48.9	48.3	48.7	49.6	48.6

In places under 5,000 population:

Number of firms reporting..............	23	22	22	22	19
Total number of female employees.......	576	544	635	594	575
Average hours worked normally per week.	49.8	47.9	48.9	48.7	49.2

ORDER NO. 30

These factories make Electrical Goods:

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	23	30	28	34	32
Total number of female employees.......	888	818	914	1,005	719
Average hours worked normally per week.	45.7	46.1	46.8	45.6	46.3

In cities over 30,000 population, excepting Toronto:

Number of firms reporting..............	7	7	9	12	9
Total number of female employees.......	647	575	539	592	508
Average hours worked normally per week.	48.3	48.8	49.3	48.5	47.9

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	11	12	9	8	9
Total number of female employees.......	532	499	336	318	251
Average hours worked normally per week.	49.	46.5	46.7	49.3	48.4

In places under 5,000 population:

Number of firms reporting..............	3	3	5	6	7
Total number of female employees.......	21	16	91	90	216
Average hours worked normally per week.	46.5	48.	47.2	45.8	46.5

ORDER NO. 34

The food trades, including the making of confectionery, biscuit, chocolate, jam, gum, grocery specialties, crushed fruits, syrup, pickles, together with bakeries, packing houses and all allied industries (excepting seasonal canneries).

In the City of Toronto:

Number of firms reporting..............	108	106	114	125	121
Total number of female employees.......	3,312	3.071	2,842	2,532	2,527
Average hours worked normally per week.	45.3	45.9	46.3	48.8	47.8

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	65	60	62	56	57
Total number of female employees.......	935	990	841	756	780
Average hours worked normally per week.	47.3	48.1	47.6	47.1	48.1

In places of 5,000 to 30,000 population:

Number of firms reporting..............	73	67	56	51	46
Total number of female employees.......	711	702	638	620	630
Average hours worked normally per week.	49.1	48.3	47.5	48.2	48.6

In places under 5,000 population:

Number of firms reporting..............	48	41	35	34	35
Total number of female employees.......	330	359	340	329	386
Average hours worked normally per week.	52.4	49.7	53.3	52.	50.7

Order No. 35

Governing all factory trades not dealt with in other Orders (except seasonal canneries):

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	132	140	143	138	153
Total number of female employees.......	1,654	1,499	1,375	1,338	1,458
Average hours worked normally per week.	45.2	45.2	45.08	45.4	45.4

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	63	73	67	63	69
Total number of female employees.......	1,104	925	791	601	689
Average hours worked normally per week.	48.2	47.6	46.3	46.5	46.8

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	89	95	95	87	91
Total number of female employees.......	1,276	1,185	1,150	1,075	1,161
Average hours worked normally per week.	49.7	48.3	45.9	45.8	47.7

In places having less than 5,000 population:

Number of firms reporting..............	71	71	78	63	70
Total number of female employees.......	1,248	1,037	1,094	866	873
Average hours worked normally per week.	49.7	49.2	48.4	47.1	48.7

Order No. 36

Factories making tobacco goods:

In the City of Toronto:

Number of firms reporting..............	4	4	5	4	7
Total number of female employees.......	214	241	260	275	360
Average hours worked normally per week.	44.	43.8	41.5	42.2	45.9

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	7	6	6	6	4
Total number of female employees.......	292	208	310	369	258
Average hours worked normally per week.	43.7	43.5	43.3	43.	44.5

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	1	—	2	3	1
Total number of female employees.......	8	—	126	381	169
Average hours worked normally per week.	44.	—	46.5	48.6	50.

ORDER No. 37

Factories making rubber goods:

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	5	4	5	7	7
Total number of female employees.......	572	508	410	420	331
Average hours worked normally per week.	45.7	45.	44.9	44.2	44.2

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	1	1	1	1	1
Total number of female employees.......	51	66	64	52	57
Average hours worked normally per week.	50.	50.	40.	40.	40.

In cities and towns of from 5,000 to 30,000 population:

Number of firms reporting..............	11	11	11	10	9
Total number of female employees.......	919	963	1,098	1,098	1,232
Average hours worked normally per week.	51.8	44.6	44.2	45.2	49.

In places having less than 5,000 population:

Number of firms reporting..............	5	4	3	3	4
Total number of female employees.......	326	95	76	60	93
Average hours worked normally per week.	51.9	47.2	47.	49.8	45.6

ORDER No. 38

Factories making jewellery:

In the City of Toronto:

Number of firms reporting..............	22	21	18	17	16
Total number of female employees.......	236	211	166	143	135
Average hours worked normally per week.	47.5	43.3	43.2	44.9	44.7

In places of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	7	8	6	6	6
Total number of female employees.......	29	23	14	17	24
Average hours worked normally per week.	44.	44.4	46.	46.5	44.2

In places of from 5,000 to 30,000 population:

Number of firms reporting..............	7	8	8	8	9
Total number of female employees.......	147	157	115	107	85
Average hours worked normally per week.	47.4	48.5	46.5	48.3	47.6

ORDER NO. 39

The paper trades, which include printing, bookbinding, paper box making, paper bag making, manufacturing stationery and other trades making paper or paper products.

In the City of Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	197	199	191	191	194
Total number of female employees.......	2,846	2,883	2,505	2,416	2,108
Average hours worked normally per week.	46.	45.5	45.6	44.6	45.6

In cities of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	69	74	68	68	68
Total number of female employees.......	1,349	1,340	1,197	1,137	1,335
Average hours worked normally per week.	46.2	45.7	47.4	46.5	45.7

In towns and cities of from 5,000 to 30,000 population:

Number of firms reporting..............	72	73	71	75	75
Total number of female employees.......	820	769	680	665	615
Average hours worked normally per week.	47.5	47.7	47.5	47.4	47.5

In places of less than 5,000 population:

Number of firms reporting..............	78	74	73	66	55
Total number of female employees.......	398	354	323	317	281
Average hours worked normally per week.	47.5	48.9	48.6	46.5	47.3

ORDER NO. 27

Hotels, Restaurants and Refreshment Rooms.

In the City of Toronto:

Number of firms reporting..............	166	175	246	203	252
Total number of female employees.......	2,821	2,934	3,039	2,518	2,590
Average hours worked normally per week.	50.6	50.7	50.2	51.3	49.5

ORDER NO. 46

In cities and towns of 30,000 population or over, excepting Toronto:

Number of firms reporting..............	132	151	145	121	125
Total number of female employees.......	867	882	852	732	648
Average hours worked normally per week.	51.9	51.6	50.8	52.	49.6

In cities and towns of from 10,000 to 30,000 population:

	1929	1930	1931	1932	1933
Number of firms reporting..............	176	215	172	161	190
Total number of female employees.......	1,071	1,057	939	807	831
Average hours worked normally per week.	52.4	50.1	50.	50.9	47.5

In cities and towns of from 4,000 to 10,000 population:

Number of firms reporting..............	117	195	142	129	150
Total number of female employees.......	484	670	506	434	449
Average hours worked normally per week.	53.1	52.8	51.4	52.5	50.4

ORDER NO. 41

Custom millinery in Toronto:

Number of firms reporting..............	59	47	49	39	37
Total number of female employees.......	513	416	396	252	256
Average hours worked normally per week.	46.3	47.9	47.7	47.5	47.5

ORDER NO. 43

Custom millinery in places of from 30,000 population or over, excepting Toronto:

Number of firms reporting..............	38	38	39	39	38
Total number of female employees.......	169	123	110	91	94
Average hours worked normally per week.	47.6	46.5	48.7	47.9	48.6

ORDER NO. 45

Custom millinery in places of from 4,000 to 30,000 population:

Number of firms reporting..............	74	64	55	41	36
Total number of female employees.......	156	133	113	88	78
Average hours worked normally per week.	50.6	50.6	48.9	48.3	48.9

ORDER NO. 42

Hairdressing and beauty parlors in Toronto:

Number of firms reporting..............	65	62	82	85	88
Total number of female employees.......	287	273	316	321	375
Average hours worked normally per week.	47.5	46.5	47.	48.3	47.1

ORDER NO. 44

Hairdressing and beauty parlors in cities of 30,000 population or over, excepting Toronto:

	1929	1930	1931	1932	1933
Number of firms reporting..............	44	44	51	50	47
Total number of female employees.......	111	118	126	119	105
Average hours worked normally per week.	46.7	47.6	48.8	47.9	47.5

ORDER NO. 25

Office workers in the City of Toronto:

	1932	1933
Number of firms reporting..............	74	552
Total number of female employees.......	3,128	9,513
Average hours worked normally per week.	39.5	44.2

ORDER NO. 26

Office workers in cities and towns of 30,000 population or over, excepting Toronto:

	1933
Number of firms reporting..............	187
Total number of female employees.......	2,106
Average hours worked normally per week.	45.8

PERMITS

The Board has the authority to issue special permits for lower wages to mentally and physically handicapped workers and to women over 60 years of age. Ninety permits covering 160 employees were issued during the year.

It will be noted that the number of permits is so small that the standards of wages are not affected. At the same time the latitude thus given enables the Board to allow a certain number of women to be steadily employed, who otherwise would be excluded from earning even a partial living.

INTER-PROVINCIAL CONFERENCE

For some years past the Board has had in mind the convening of an Inter-Provincial Conference of Minimum Wage Boards from all parts of Canada. All the eight provinces having Minimum Wage Laws have expressed their willingness to attend. The chief difficulty militating against the bringing of such a gathering together has been, of course, financial, but the Board intends again to press for such a conference this coming year, with the hope that possibly the Federal Government may be interested sufficiently in securing uniformity of Minimum Wage Laws throughout Canada to be willing to defray the expense of such a meeting, to be held, if possible, in Ottawa in 1934.

CONCLUSION

We have already, in the early paragraphs of this report, expressed our appreciation to the employees and employers for their support and assistance. We wish now to thank the members of our loyal and efficient staff, who have carried on so faithfully during the year.

We regret the resignation of our friend and colleague, Mr. James T. Burke, Chief Factory Inspector, who was intimately associated with this Board from its inception. For his wise counsel and splendid co-operation we sincerely thank him, and wish him a happy time in his retirement. We appreciate the continued co-operation of the inspectors who assist us in our enforcement of the law.

A special word of thanks we would tender to the several Crown Attorneys throughout the Province, who cheerfully helped us when it was necessary to call upon their services.

Finally, we once more confidently appeal to those in a position to help us, to continue their support of our earnest efforts to protect the women and girls employed throughout the Province.

MINIMUM WAGE BOARD,

R. A. STAPELLS,
Chairman.

MARGARET STEPHEN

HENRY G. FESTER

PROVINCE OF ONTARIO

Department of

Northern Development

Report of Operations under The Northern Development Act, R.S.O. 1927, and The Colonization Roads Act, R.S.O. 1927

AND AMENDMENTS

For the Year Ending 31st October

1933

PRINTED BY ORDER OF
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SESSIONAL PAPER No. 47, 1934

ONTARIO

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1934

To His Honour Dr. Herbert A. Bruce,
Lieutenant-Governor of the Province of Ontario.

May It Please Your Honour:

The undersigned has the honour to present Report on Operations under The Northern Development Act, R.S.O. 1927, and amendments, for the fiscal year ending 31st October, 1933.

Wm. Finlayson,
Minister.

Toronto, October 31st, 1933.

HONOURABLE WILLIAM FINLAYSON,
Minister of Lands and Forests.

I have the honour to present herewith Report on the Operations of the Department of Northern Development for the fiscal year ending 31st of October, 1933.

C. H. FULLERTON,
Deputy Minister.

Toronto, October 31st, 1933.

CHIEF ENGINEER'S REPORT

On the construction and maintenance of roads and bridges and other operations carried on under the provisions of the Northern Development Act, R.S.O. 1927, and amendments, during the fiscal year ending 31st October, 1933.

Section 11 (B), Roads and Bridges

Work on roads and bridges was carried out in the Electoral Districts of Muskoka, Parry Sound, Nipissing, Sturgeon Falls, Temiskaming, Cochrane South, Cochrane North, Sudbury, Algoma, Manitoulin, Sault Ste. Marie, Port Arthur, Fort William, Rainy River and Kenora and the Trans-Canada Highway in "Renfrew North" west of the Town of Pembroke.

The total expenditure under this section was $1,637,224.34.

District Engineers, ten in number, listed in this report, aided by Assistant Engineers, Instrument men and Inspectors, were in charge of the work.

Construction and Maintenance

Under "Direct Expenditure, Northern Development," the work accomplished is given in Appendix "A." Owing to a reduction of appropriation, the construction work was greatly reduced and maintenance work carried on in a very limited manner. There was only one contract of any extent. Mileage of road graded was slightly over 25 miles and road gravelled for the first time amounted to 175 miles. The number of miles repaired with gravel amounted to 1,394. The patrol maintenance under the trunk road system, reached a total of nearly 200,000 miles. The District Engineers reports give mention to the most important works.

In addition to the work given in Appendix "A," the following is to be added: Roads widened, 43.5 miles; rip-rap, 1,125 cu. yds.; gravel stock piled, 1,662 cu. yds.; crushed stone stock piled, 238 cu. yds.; brush cut, 438 miles; brush burned, 309 miles; grass and weeds cut, 137 miles; ditches cleaned, 96 miles; culverts cleaned of ice and snow, 833; culverts repaired, 236. Guard rail: cable used, 13,805 feet; guard rail erected, 6,018 feet. Bridges protected from ice, 3; bridges torn down, 18. Piles driven, 380; concrete piers for steel, 2. Signs: standard road signs erected, 238; repaired, 357; repainted, 247; lettered road signs erected, 564. Ferries: round trips, 11,483. Lumber: lumber cut, 7,052 feet; purchased, 2,651 feet. Number of surveys, 20. Machinery overhauled, 81 power graders and 28 small graders.

Agreements

Municipalities in every section of Northern Ontario availed themselves of the privilege of carrying on road work on a 50-50 basis. The work accomplished is given in Appendix "B."

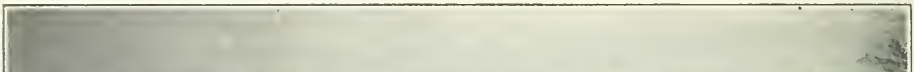
Unemployment Relief

The work under this heading was carried on in seven electoral districts where Board Camps had been established. The camps operated throughout the entire year and while they were not fully occupied during the summer months they rapidly filled to capacity in September and October. The men were given every encouragement for recreation. The work accomplished by these camps is given in Appendix "C."

In addition to the work set out in Appendix "C," the following work is to be added: Roads widened, 2 miles; rip-rap, 785 cu. yds.; brush cut, 372 miles; burned, 88 miles; grass and weeds cut, 8 miles; corduroy removed, 1 mile; ditches cleaned, 88 miles; culverts cleaned of ice and snow, 48; repaired, 58. Cable used, 1,950 feet; guard rail erected, 7,548 feet; posts used, 947. Standard signs erected, 81; repaired, 6; repainted, 30. Lumber purchased, 24,450 feet. Surveys, 2, totalling 27 miles.

Trans-Canada Highway

The work in Trans-Canada Highway Camps continued throughout the entire year. The progress of the work was very satisfactory, many miles of the grading being completed. It is expected several sections will be opened to traffic during the next season. The work accomplished is given in Appendix "D." In addition to the work given in the appendix, there is to be added: Roads widened, 12 miles; rip-rap, 2,087 cu. yds.; brush cut, 335 miles; grass and weeds cut and burned, 17 miles; culverts cleaned of ice and snow, 18. Guard rail erected, 22,178 feet. Bridges torn down, 1; piles driven, 207. Road traverses surveys, 10 miles; additional buildings erected, 54.



Bissett's Creek. Looking East.

Direct Relief

Work under Direct Relief for the year showed a marked advance over the previous year and a great deal more work was accomplished. The Department Engineers laid out and supervised the work carried out by those receiving relief vouchers.

The schedule of the work is given in Appendix "E."

In addition to the work shown in the appendix, 1 mile of pavement was repaired, 16.3 miles were surfaced and 16 curves banked; road widened 5 miles and the shoulders were lifted on 5 miles; rip-rap amounted to 332 cu. yds.; gravel stock piled, 216 cu. yds.; brush cut and burned, 3.8 miles; grass and weeds burned, 85 miles; ditches cleaned, a total of 457 miles; culverts cleaned of ice and snow, 312; repaired, 176. Guard rail erected, 13,270 feet; number of posts used being 284; 2 bridges were torn down, and 392 piles driven. Lumber purchased, 52,000 feet. The number of road surveys was 63. Twenty-nine machines were overhauled and 24 buildings erected.

Recapitulation

A summary of all the works carried out as described above will be found in Appendix "F."

DISTRICT REPORTS

No. 1—Muskoka and Parry Sound—E. J. Hosking, Huntsville.

In this District certain trunk and main roads only come under the jurisdiction of the District Engineer.

No work of major importance was done during the year. Due to the reduction of funds allocated to this District, there was no construction work attempted and the maintenance reduced to a minimum, particularly on the secondary or branch trunk roads. During the month of October, 6,000 tons of crushed stone and screenings were placed on the Ferguson Highway between Scotia and Burk's Falls, and sufficient gravel was placed on the balance of the unpaved section of the Ferguson Highway and the secondary roads to carry the fall and spring traffic.

Direct Relief

During the latter part of May, men on direct relief, in the unorganized townships along the Powassan-Restoule, Trout Creek-Loring, Burk's Falls Parry Sound and Gravenhurst-Bala-Parry Sound Roads were placed at work. The foremen supervising the relief workers were paid by the Department. In this connection 6,131 man days work, 280 team days and 412 truck days work were done which at current rates had a value of $12,562.30.

East face of Rock Cut at North Bay.

No. II—Nipissing, Sturgeon Falls and Renfrew North—G. A. White, North Bay.

The principal work performed during this year was the continuation of the construction of the Trans-Canada Highway between Pembroke and North Bay through the Town of Mattawa.

This work was carried on under the Trans-Canada Board Camp and Trans-Canada Unemployment Relief Schemes. Between Pembroke and Point Alexander a distance of 33 miles had already been built, of which 22 miles was retread surfacing. An additional 4.4 miles of hard surface was laid this year.

From Point Alexander to Mattawa, a distance of about 60 miles, the grading has been practically completed and 70 per cent. gravel surfaced. Nine concrete structures were built on this section under contracts, and also two small grading contracts let at points where it was not feasible to do the work by day labour.

From Mattawa to North Bay, a distance of approximately 38 miles, the grading is about 75 per cent. completed but very little surfacing done. On this section, seven concrete structures are under contract.

From Point Alexander to North Bay the highway runs through a very rugged country composed mostly of rock hills, but when completed will be a very scenic route.

Very little other work was done other than the usual necessary work to keep the roads maintained for traffic. This consisted of gravel, patching, dragging, side brushing, and repairs to bridges.

The section of the Ferguson Highway, locally known as the Callander Road, about 8.5 miles in length, was partially resurfaced and two curves widened under contract.

No. III—Sudbury and Manitoulin—A. M. Mills, Sudbury.

During the past fiscal year the following work should be classed as the most important carried out, and where the largest expenditures were made:

Sudbury District

Completing the Chapleau-Iron Bridge Road to Mileage 31: Grading a further 5 miles south of Dead Man's Creek, under Board Camps System.

Sudbury-Levack-Cartier Road: This road was completed six miles west of Levack, under Board Camps System.

Sudbury-North Bay Trunk Road: Improving curves and widening road about one mile east of Markstay, under Settlers' Camp System.

Sudbury-North Bay Trunk Road: Replacing the old bridge over the Wahnapitae River at Wahnapitae Village by a new timber truss structure, 60-foot span, 192 feet over all.

Manitoulin District

Extending road and building bridge to Fire Ranger's Bay-Lake Penage by Direct Relief.

Improving alignment and grades of the Sudbury-Soo and Espanola-Little Current Trunk Roads.

The Trunk Roads on the island were casually patrolled and a large number of culverts replaced.

No. IV—Algoma and Sault Ste. Marie—G. J. Lamb, Sault Ste. Marie.

Algoma District

The work carried on during the past fiscal year in Algoma Electoral District may be subdivided under four headings: Department of Northern Development Regular Work, Unemployment Relief Board Camps, Settlers' Camps, and Direct Relief.

Department of Northern Development Regular Work

Under this heading the work of keeping the Soo-Sudbury Trunk and other Branch Trunk Roads in shape throughout the summer and late spring of 1933 was carried on. The most important item of work carried on was, perhaps, the dragging operations which were carried on with mechanical equipment.

Approximately 240 miles of road were covered by dragging operations during the summer, involving a distance of 20,299 miles.

Two steel bridges received repairs in the form of new flooring.

Seven agreements between the Department of Northern Development and municipalities were carried out.

Unemployment Relief Board Camps

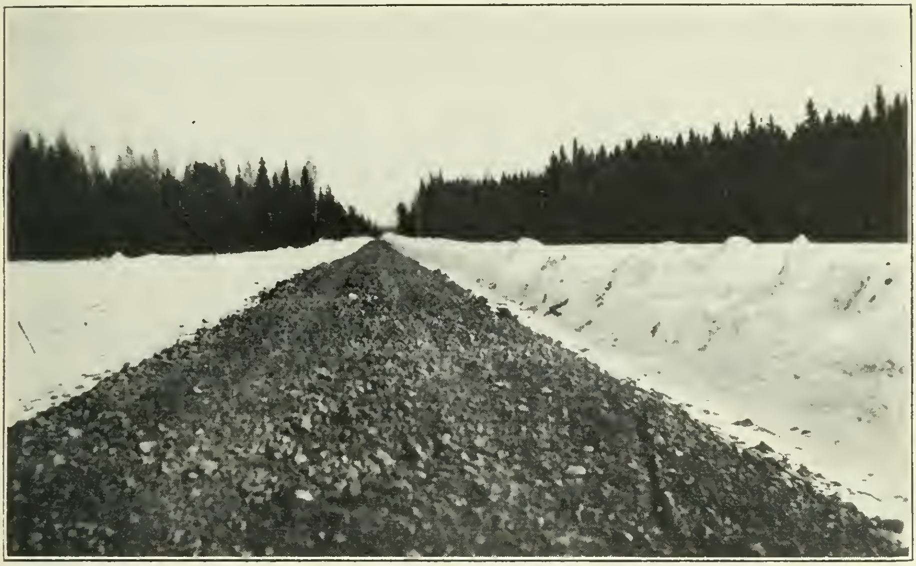
Under this heading perhaps the most work in Algoma Electoral District was carried on, as it included the Desbarats-Cutler-Spanish Camps. Two camps were operated at Desbarats, at points in the Town of Desbarats, and approximately three miles west and work was carried on throughout the fiscal year with the object in view of completing the Pine Island-Portlock Diversion on the Soo-Sudbury Trunk Road. Sixteen thousand five hundred cubic yards of solid rock and 27,400 of earth materials were excavated and placed in fill.

The camp at Cutler Station operated throughout the fiscal year, and early in the summer a camp was installed approximately three miles west of Spanish. Work was carried on from these camps toward completing the Cutler-Spanish Diversion. As in the Desbarats Camp, the chief items were 1,800 cu. yds. of rock excavation and 70,000 cu. yds of earth excavation. Six thousand five hundred feet of standard guard rail was erected during the course of construction of new grades.

Settlers' Camps

During the past fiscal year settlers' gangs were organized in different points throughout Algoma and work was carried on principally on Soo-Sudbury Trunk Road and Branch Trunk Roads. Three camps were also organized on Salter, May and Hallam Township Roads. A settlers' camp was installed early in the summer of 1933 and work was carried on with the object in view of completing the Spanish East Diversion between Spanish and Walford. The work carried on was chiefly grading.

In the latter part of June, 1933, a camp was organized west of the Town of Thessalon and work on the Thessalon West Diversion was carried on. This diversion runs from the Thessalon Park to the Trunk Road at a point approximately three miles west of the town. One thousand nine hundred and fifty cubic yards of solid rock were excavated and placed in fill and some 12,000 cu. yds. of other materials were hauled for fill.



Gravelling West of Potwah Creek.

Direct Relief

Under this heading in Algoma Electoral District, work was carried on chiefly on the Soo-Sudbury Trunk Road and Branch Trunk Roads. The work for the most part consisted of ditching, gravelling and guard rail. Four hundred and twenty-two feet of standard guard rail was erected. A direct relief gang commenced operations on the Lake Matinenda Branch Trunk Road in July, 1933, and 10.5 miles of road were gravelled, using 7,280 cu. yds. Some 5,000 cu. yds. of earth and 600 yards of solid rock were excavated for fill. On the St. Joseph Island Branch Trunk Road System, under the heading of Direct Relief, 2,140 cu. yds. of earth were excavated for the improvement of drainage on the Branch Trunk Roads.

One timber bridge was replaced with a new structure and one timber bridge was removed and a metal culvert installed. Two steel bridges received repairs in the way of new floor and guard rail.

Sault Ste. Marie District

Work carried on during the past fiscal year in the Sault Ste. Marie Electoral District may be divided under three headings: Department of Northern Development Regular Work, Settlers' Camps, and Direct Relief Work, and the following paragraphs are a short summary of the work as carried on under each heading.

Department of Northern Development Regular Work

Under this heading no major work was undertaken during the past year. Expenditures were chiefly for the purpose of maintenance work carried on after April, 1933, when spring maintenance was necessitated.

The most outstanding work carried on was dragging operations by means of mechanical equipment on approximately 100 miles of road in the Sault Ste. Marie District. The total mileage travelled by drags was 10,762 miles.

Repairs were made to the Root River Bridge on the Sault-Searchmont Road, four miles north of the Sault. A wooden deck was placed on this concrete structure after floods caused a settlement on the north side below the level of the existing grade.

Four municipal agreements were entered into between the Department and four municipalities: Prince, Korah, Tarentorus, and Wicksteed.

Settlers' Camps

In July, 1933, a Settlers' Camp commenced operations in the Town of Hornepayne on the Canadian National Railway. Work was carried on on a highway location, easterly along the Canadian National Railway towards the Village of Oba and at the end of the fiscal year 2.60 miles had been cut out.

Direct Relief

Under this heading most of the work in the Sault Ste. Marie District was carried on. Improvement of the grade alignment of the Sault-Searchmont Road between Bellevue and Searchmont was, perhaps, the most important item.

From time to time during the season small gangs were at work on the Soo-Searchmont Road, side-brushing, draining and general improvement.

Improvement of the road between Goudreau Station and Lochalsh was commenced shortly before the end of the fiscal year.

Work was also commenced on the Tookney Lake Road from White River on the Canadian Pacific Railway.

Direct Relief Labour was used throughout the summer for the purpose of cutting weeds along 63 miles of road.

During the winter and spring of 1933, 48 miles of narrow trails were cut, using relief labour, to various lakes throughout the country which were located a short distance from the main highway. These trails were cut for the purpose of giving access to these lakes.

One new timber bridge was constructed on township road over local creek in Township of Kars.

No. V—Temiskaming—D. J. Miller, New Liskeard.

Very little work of major importance was undertaken during the past year, the Department's efforts being largely confined to maintenance and repairs on Trunk Roads.

The Haileybury West Road to the Montreal River, on which the grading work was largely done in the previous year, was gravelled and opened for traffic in this year.

Petawawa Bridge.

A new bridge was approved for the Blanche River crossing on the Ferguson Highway (Marquis-Pacaud Boundary) and the concrete abutments were built by day labour. The steel is to be erected by contract this winter.

Fourteen timber bridges were built, four of them being new structures and ten being replacements of old worn-out structures.

There was the usual winter gravelling programme which was carried out in February and March. This was not quite as extensive as in previous years.

Thirteen Organized Municipalities made Road Agreements with the Department whereby they received 50 per cent. of their township road expenditures from the Government.

By arrangement with Direct Relief Committee, the labour, of recipients of Direct Relief, was used on road work wherever possible and convenient.

No. VI—South Cochrane District—D. Lough, Matheson.

The following is a synopsis of the major work performed in this District during the fiscal year 1932-1933:

The construction by contract of 27 miles of the Kirkland Lake-Noranda Road. This road joins the Quebec section at the Inter-Provincial Boundary (Cheminis), and the road mileage between the two mining centres is 56 miles. The road was opened this fall for regular traffic and has provided a very necessary and useful link between these two mining camps.

Completion of the grading on the Kirkland Lake-Goldthorpe-Alschbach Road.

Patching and seal coating on the Kirkland Lake-Swastika Road.

Three Organized Townships received assistance under agreements.

Department Engineers and Foremen supervised all Direct Relief Labour in this District, the Department also supplying all equipment and material required for Direct Relief Work. A considerable amount of work was accomplished under this arrangement.

Direct Relief

The Ferguson Highway and other main roads were maintained throughout the year entirely by Direct Relief Labour and the only charge against the Department was for dragging operations. Apart from the necessary main road maintenance all Direct Relief Work was applied on Township Roads and many of these roads were greatly improved by ditching, grading, etc.

No. VII—North Cochrane District—W. B. Hutcheson, Cochrane.

The work carried out under the above expenditure has been very greatly reduced in comparison with other years.

During the winter of 1932-33 only a small amount of gravelling was carried out, the largest operation in this connection being the regravelling of the Cochrane-Hearst Trunk Road between Fauquier and Moonbeam. A very useful and much-needed piece of work carried out during the winter months was the construction of the approaches to the Ground Hog River Ferry. At this location a new section of road, 1,150 feet in length, was graded and gravelled to straighten out the approaches. Also 135 feet of timber ramp on piles was constructed at each side of the river. This was built at a constant slope, allowing an easy approach on to the ferry at any stage of the river. Altogether 76 piles and 24,300 F.B.M. of timber went into this work and the construction of new hinged platforms on the ferry.

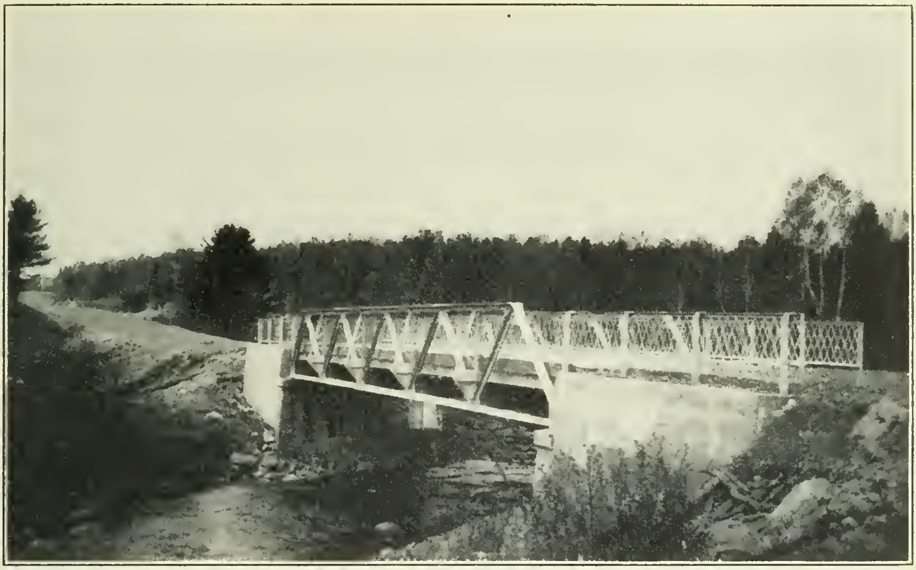
This year mechanical maintenance work was reduced to about one-third of that carried out in previous years, and was confined to main Trunk Roads. These were kept in fairly good condition for motor traffic throughout the District.

Owing to the appropriation being reduced, very little repair work was carried out on mechanical equipment during the winter. A mechanic was, however, retained during the summer to look after any necessary repairs on graders and ferries.

Direct Relief

Mostly all the work carried out in the District during the year was performed by Direct Relief Labour under the direction of foremen appointed and paid by the Department of Northern Development.

The relief granted in the Cochrane and Kapuskasing Districts was under the direction of the Engineer, Department of Northern Development, who acted as Relief Officer for the full year. Hearst District, which was previously looked after by a Relief Officer appointed by the Relief Committee in Toronto, was also placed under our jurisdiction on January 18th, 1933. During the year the various amounts granted for relief were worked out in full by the recipients, except from March 12th to April 25th when the work was closed down due to bad weather conditions and also from June 1st to the end of the fiscal year when a maximum of two days per week was put into force to allow the settlers the balance of the week to work on the land.



Looking West. Spark's Creek.

Almost every class of work was carried out, including bridge repairs and reconstruction, road maintenance by horse-patrol grader, gravelling, etc., and although a considerable amount of work was done, Direct Relief Labour proved very inefficient, and the amount of work received was by no means commensurate with the relief granted.

Authorization covering the construction of various roads in certain townships for Relief Land Settlers was received in the latter part of September.

This work was commenced on September 25th, various gangs being placed on roads in Casgrain, McCrea, Idington, Machin, Shackleton and Clute Townships. To assist on this work, the old settlers in the neighbourhood of the work, who were previously on relief, were employed to assist the Relief Land Settlers.

No. VIII—Fort William and Port Arthur—A. J. Isbester, Fort William.

Fort William District

The chief work carried on by the Department during the year was the construction of the Trans-Canada Highway.

During the winter, gravelling was done in most of the townships to afford relief work, and in the Organized Townships, dollar for dollar was spent.

Trans-Canada Highway

Work was carried on from the City Limits of Fort William to the west end of the District—English River—and considerable progress was made. During the summer the number of men looking for work fell off greatly but most of the camps were continued. This work west of Fort William is appreciably nearing completion.

Board Camps

Three camps were maintained, widening and improving the International Highway, throughout the summer, and good progress was made.

A gang of Canadian Legion men also were given steady employment, ditching and draining this road at various points on the first 12 miles.

Settlers' Camps

Where there were settlers living close to the work on the Trans-Canada Highway, they were put to work and not required to board in the camps but lived at home, being allowed the extra remuneration of 60 cents per day. Gangs of this type were employed at Stanley, at Kakabeka, at Rowan, at Sunshine, and at Upsala.

Riprapping grade between Rock Cuts.

Direct Relief

At five points this Department paid the foremen and supplied tools for gangs working on Direct Relief.

Port Arthur District

As in the Fort William District the chief work carried on by the Department was the construction of the Trans-Canada Highway between Port Arthur and Nipigon and between Schreiber and Rossport.

Winter gravelling was done in most of the townships to give necessary work to the settlers. An old road was improved in Sibley Township for a distance of 12½ miles to give Silver Islet, one of the oldest settlements in the District, access to the head of the lakes.

A road was built from Savant Lake Station to Sturgeon Lake, a distance of 3½ miles, to give access to the mining district and enable the St. Anthony Mine to take in heavy machinery.

Trans-Canada Highway

The existing road between Port Arthur and Nipigon was widened and brought up to the Trans-Canada standard for a distance of 15 miles. Near Schreiber, several dangerous hills were cut down and sharp curves eased.

Board Camps

One camp was maintained on the Dawson Road, widening it and bringing it to standard.

A gang of returned Canadian Legion men was also given work through the summer at another point on the Dawson Road doing similar work.

Direct Relief

This Department paid foremen and supplied tools at Nakina, Armstrong, Dorion and Hurkett to gangs who were working out the relief they obtained from the Relief Board. This work was carried on in conjunction with the District Relief Officer.

No. IX—Kenora District—C. Tackaberry, Kenora.

As the appropriation for Northern Development was greatly reduced this year, work was confined mostly to maintenance.

The Highway from Keewatin to the Manitoba Boundary, a distance of 27 miles, was regularly patrolled, and general maintenance work consisting of regravelling, repairing guard-rail posts, cutting weeds, etc., was carried on.

The Fort Frances Road, east of Kenora, a distance of 25 miles, was dragged twice a month.

The road from Kenora to Redditt, a distance of 20 miles, was regularly patrolled with a team grader. Four miles were regravelled.

The side roads were dragged out once a month and kept in very good condition throughout the season.

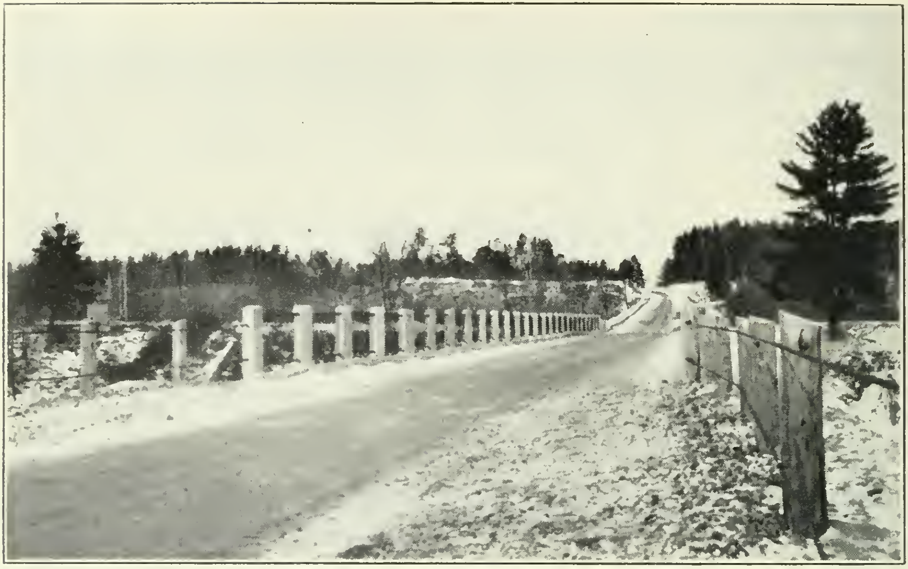
In the Dryden area, the main roads were regravelled where required, and kept in good condition with Direct Relief Labour supervised by Northern Development foremen. One mechanical grader was used to maintain the gravel roads.

Trans-Canada Highway

The principal work carried on in this District was the construction of the Trans-Canada Highway. In all, thirty camps were in operation as follows:

English River to Ignace, 37 miles. Eight camps operated on this section during the fiscal year. Grading, 80 per cent. completed.

Osaquan to Dyment, 32 miles. Eight camps operated on this section during the fiscal year. Grading, 80 per cent. completed.



New Road.

Vermilion Bay to Kenora, 59.3 miles. Fourteen camps operated on this section during the winter months only. Grading, 20 per cent. completed.

The peak of employment occurred during the month of January when 3,000 men and 180 teams were employed on the Trans-Canada Highway.

Unemployment Relief

The work carried on under this scheme was confined to the construction of the Sioux Lookout-Dinorwic Road. The work consisted of cutting, grubbing, ditching, grading and some gravelling.

During the fiscal year, only one camp was in operation on this section, but it is hoped to have three camps in operation by late fall.

This work takes care of the transients of Sioux Lookout and vicinity, and when the road is completed, a distance of 43 miles, it will give the people of Sioux Lookout an outlet to the Trans-Canada Highway.

Thirty-four per cent. of grading is completed.

Direct Relief

Practically all Direct Relief Work, under the supervision of the Department of Northern Development, was carried on in the Dryden area, and the work consisted of improvements to existing roads such as sidebrushing, ditching, culvert replacement, widening existing roads, clay surfacing and gravelling.

Work was done in the Townships of Redvers, Wabigoon, Langton, Mutrie, Aubrey E., Rugby, Eton, Rowell, Britton, Wainwright, Van Horne, Zealand, Southworth and Melgund.

On the main highway, part of the Trans-Canada System, gravelling predominated. Sixty miles were repaired, of which 43 miles were resurfaced with a light application. Fourteen curves were widened and banked; off-takes and ditches cleaned, and culverts repaired and replaced throughout the entire length.

There were nine miles of road repaired on the Secondary Trunk Roads between Quibell-Vermilion Bay.

With a few exceptions, settlers on relief turned out willingly to work out the amount of their relief vouchers.

No. X—Rainy River District—R. T. Lyons, Fort Frances.

Work in the Rainy River District was composed mainly of Trunk Road maintenance and emergency maintenance to side roads and bridges.

All municipalities engaged in the 50-50 municipal agreement work and considerable progress was made.

Construction work was carried on continuously throughout the year in the Board Camps on the Fort Frances-Kenora Highway and considerable work has been accomplished. Kakagi Lake will soon be directly accessible by motor car, which will add much to the tourist drawing power of the highway.

The Department supervised and supplied the necessary equipment to those men engaged in working out the relief received by them per month from the Department of Direct Relief.

Haliburton—Unemployment Relief

Coboconk-Minden-Dorset Road

Work on the above road commenced in December, 1932, with the reopening of four camps that had been operating the previous winter, and one Settlers' Group at Miners Bay.

The work at the four camps started in where it was stopped the previous spring, and many major diversions were completed, the most important being the one at Beach River by Camp 9, and a half-mile diversion south of Minden.

Most of the improvements on this road consisted of widening the present road and easing grades and curves. As the grading did not get underway until late in December, the frost had in most cases penetrated to an unusual depth, consequently efficiency was not as high at the start in some of the camps except on the diversions and in rock work, as it was with the breakup in the spring that considerably better progress was made when all winter work was shaped up and much new grading completed.

The maintenance of all roads within working distance of each camp was looked after by the camp, in this way the surface was kept in very good shape all summer.

Two compressors were alternated between the four camps and did very good as there was considerable heavy rock work near these camps.

Section 11 (d)—Assistance of Settlers, Feed Shortage:

Reports were received by the Government that a very great necessity had arisen in Northern Ontario for the immediate supply of hay and other feed for the cattle and other livestock of the settlers, consequently hay and feed oats were supplied to the following districts: North Cochrane, South Cochrane, Temiskaming, Nipissing, Sturgeon Falls, Sudbury, Algoma. The total expenditure was $7,530.68.

Section 11 (f)—Seed Grain:

For the year 1933, seed wheat, oats, barley and peas were supplied to settlers in Northern Ontario, and distributed as follows: North and South Cochrane, 2,590 bags seed grain; Temiskaming, Nipissing and Sturgeon Falls, 370 bags; Sudbury, Algoma and Sault Ste. Marie, 545 bags; Thunder Bay, 24 bags; Kenora, 316 bags. Total expenditure, $9,719.17.

Section 11 (h)—Cattle Purchase.

Total shipments during the year 1933 amounted to five carloads or seventy-four head of cattle, shipped to North and South Cochrane and Rainy River Districts. The total expenditure was $4,948.75.

JAS. SINTON,

Chief Engineer, Department of Northern
Development, Ontario.

Toronto, October 31st, 1933.

SUMMARY OF EXPENDITURES OF ALL SERVICES UNDER THE ADMINISTRATION OF THE DEPARTMENT OF NORTHERN DEVELOPMENT FOR THE YEAR ENDED 31st OCTOBER, 1933

Department of Northern Development	$1,749,990 46
Trans-Canada Highway—Unemployment Relief, Schedules 1D, 2D, 3D, 4D	55,447 44
General Work—Unemployment Relief, Schedules 3B and 5B	120,269 24
Sultan-Swayze Township Road—Unemployment Relief, Project 03	2,906 02
Statutory—Board Camps—Unemployment Relief—Project 04	3,525,676 52
Statutory—Settlers' Camps—Unemployment Relief—Project 04	205,118 15
Haliburton-Eagle Lake Road—Unemployment Relief—Project 05	94,419 95
Bridges on Trans-Canada Highway between Mattawa and Pembroke—Unemployment Relief	71,193 61
Bridge at Petewawa River, Trans-Canada Highway—Unemployment Relief	17,580 74
Gravelling, Trans-Canada Highway, North Bay-Point Alexander—Unemployment Relief	11,863 11
Bridges on the Trans-Canada Highway between Mattawa and North Bay—Unemployment Relief	9,444 32
Retread, Trans-Canada Highway, Tucker's Creek-Chalk River—Unemployment Relief	11,872 98
Grading, Trans-Canada Highway, Deux Rivieres-Stonecliffe—Unemployment Relief	1,073 70
Special Warrant—Road between Larder Lake-Kirkland Lake	99,394 05
Special Warrant—Round Lake Bridge	4,356 07
Special Warrant—Relief Land Settlement Roads	712 00
Special Warrant—Canadian National Exhibition	490 30
Special Warrant—Trip to Northern Ontario by members of Good Roads Association	279 51
	$5,982,088 17

By Transfer to Department of Labour:

Trans-Canada Highway (Schedules 1D, 2D, 3D, 4D)	$55,447 44	
General Work (Schedules 3B and 5B)	120,269 24	
Board Camps	3,525,676 52	
Settlers' Camps	205,118 15	
Sultan-Swayze Township Road	2,906 02	
Bridges on the Trans-Canada Highway between Mattawa and North Bay	9,444 32	
Bridges on the Trans-Canada Highway between Mattawa and Pembroke	71,193 61	
Bridge at Petewawa River, Trans-Canada Highway	17,580 74	
Haliburton-Eagle Lake Road	94,419 95	
Gravelling, Trans-Canada Highway, North Bay to Point Alexander	11,863 11	
Retread, Trans-Canada Highway, Tucker's Creek-Chalk River	11,872 98	
Grading, Trans-Canada Highway, Deux Rivieres-Stonecliffe	1,073 70	
		4,126,865 78
Northern Development Expenditure, including Special Warrants		$1,855,222 39

SUMMARY OF EXPENDITURE FOR THE TWENTY-TWO YEARS ENDED OCTOBER 31st, 1933

THE NORTHERN DEVELOPMENT FUND

R.S.O. 1927, Chap. 36, Sec. 11

Work Undertaken	Summary of Expenditure, 23rd May 1912 to 31st Oct., 1932	Expenditure for Year ended October 31st, 1933	Total Expenditure to 31st October, 1933
Section 11 (a) Works and Improvements	$2,100 00	....	$2,100 00
Section 11 (b) Roads and Bridges	53,550,878 32	$1,637,224 34	55,188,102 66
Section 11 (d) Farms	206,110 04	....	206,110 04
Section 11 (d) Assistance of Settlers; Fire Relief	329,099 50	....	329,099 50
Section 11 (d) Assistance of Settlers; Saw Mills	14,945 90	....	14,945 90
Section 11 (d) Assistance of Settlers; Feed Shortage	124,268 82	7,530 68	131,799 50
Section 11 (d) Creameries and Grain Elevators	82,181 29	....	82,181 29
Section 11 (f) Seed Grain	399,604 96	9,719 17	409,324 13
Section 11 (f) Agricultural Implements	46,826 22	....	46,826 22
Section 11 (h) Purchase of Cattle	111,807 52	4,948 75	116,756 27
Section 11 (j) Schools and Other Public Buildings	52,999 29	....	52,999 29
Section 11 (k) Work not otherwise provided for	4,519 27	....	4,519 27
Returned Soldiers' and Sailors' Settlement Act, 1917	1,185,568 02	....	1,185,568 02
	$56,110,909 15	$1,659,422 94	$57,770,332 09
Settlers' Loan Account	1,918,047 09	90,567 52	2,008,614 61
	$58,028,956 24	$1,749,990 46	$59,778,946 70

THE NORTHERN DEVELOPMENT FUND

R.S.O. 1927, Chap. 36, Sec. 8

Short Statement

April 16th, 1912	—To amount voted for Expenditure in N. & N.W. Ontario	$5,000,000 00
March 26th, 1918	" " " " "	5,000,000 00
May 21st, 1921	" " " " "	5,000,000 00
May 8th, 1923	" " " " "	5,000,000 00
April 14th, 1925	" " " " "	5,000,000 00
April 8th, 1926	" " " " "	5,000,000 00
April 5th, 1927	" " " " "	5,000,000 00
March 28th, 1929	" " " " "	5,000,000 00
April 3rd, 1930	" " " " "	10,000,000 00
April 2nd, 1931	" " " " "	5,000,000 00
March 29th, 1932	" " " " "	5,000,000 90
April 18th, 1933	" " " " "	3,000,000 00
		$63,000,000 00
April 16th, 1912 to October 31st, 1933	—By Expenditures for 22 years as per detailed statement	59,778,946 70
	Balance available 1st November, 1933	$3,221,053 30

THE DEPARTMENT OF NORTHERN DEVELOPMENT

Expenditure for the Year Ended 31st October, 1933. R.S.O. Chap. 36

Administration, Section 9 ($132,210.84)

Salaries of Permanent Staff	$101,018 75	
Salaries of Temporary Staff	10,604 52	
	$111,623 27	
Travelling Expenses, Supplies and Contingencies	20,587 57	
		$132,210 84
Less Salary Assessment		6,984 77
		$125,226 07

Roads and Bridges, Section 11 (b)—($1,511,998.27)

District No. 1, Huntsville	$173,644 27	
District No. 2, North Bay	194,729 59	
District No. 3, Sudbury	195,844 80	
District No. 4, Sault Ste. Marie	160,356 61	
District No. 5, New Liskeard	225,001 79	
District No. 6, Matheson	270,378 85	
District No. 7, Cochrane	92,474 54	
District No. 8, Fort William	281,344 10	
District No. 9, Kenora	82,414 13	
District No. 10, Fort Frances	57,505 92	
		1,733,694 60
Less Repayments transferred from Refund Account		221,696 33
		$1,511,998 27

District No. 1 ($173,644.27)—Engineer, E. J. Hosking, Huntsville.

Ferguson Highway	$86,629 23	
Burks Falls-Parry Sound Road	12,976 80	
Rosseau Road	9,912 72	
Bracebridge-Dorset Road	9,021 08	
Trout Creek-Loring Road	8,705 57	
Powassan-Restoule Road	6,732 56	
Huntsville-Dorset Road	4,855 32	
Gravenhurst-Bala-Parry Sound Road	3,631 16	
Sundridge-Magnetewan Road	2,646 12	
Equipment and Tools	2,382 41	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	26,151 30	
		173,644 27

District No. 2 ($194,729.59)—Engineer, G. A. White, North Bay

Trans-Canada Highway	$32,379 07	
North Bay-Sault Road	20,799 70	
Ferguson Highway	15,922 49	
Mattawa-Callander Road	13,205 56	
Warren-Rutter Road	4,620 80	
Warren-River Valley Road	2,389 18	
Sturgeon Falls-Field Road	1,806 76	
Algonquin Park Road	1,751 65	
Field-River Valley Road	1,063 83	
Equipment and Tools	7,632 26	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	93,158 29	
		194,729 59

District No. 3 ($195,844.80)—Engineer, A. M. Mills, Sudbury

North Bay-Sault Road	$31,538 57	
Espanola-Little Current Road	28,068 98	
Sudbury-Levack Road	8,602 27	
Sudbury-Garson-Massey Bay Road	5,979 96	
Chelmsford-Capreol-Blezard Road	4,966 36	
Little Current-Gore Bay Road	4,731 38	

Roads and Bridges—Continued

District No. 3—Continued

Sudbury-Milnet Road	$4,007 41	
Providence Bay-Manitowaning Road	3,893 63	
Gore Bay-Meldrum Bay Road	3,813 60	
Little Current-Manitowaning Road	2,256 41	
Gore Bay-Providence Bay Road	2,214 23	
Chapleau-Devon Road	2,129 87	
Sandfield-Mindemoya Road	1,809 52	
Sudbury-Burwash Road	1,405 65	
Equipment and Tools	11,582 33	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	78,844 63	
		195,844 80

District No. 4 ($160,356.61)—Engineer, G. J. Lamb, Sault Ste. Marie

North Bay-Sault Road	$60,113 92	
Second Line, Korah	14,375 07	
Sault-Island Lake-Searchmont Road	7,154 08	
St. Joseph Island Roads	4,596 60	
Lake Matinenda Road	3,276 08	
Sault-Batchewana Road	2,441 01	
Wharncliffe Road	1,453 20	
Lee Valley Road	1,204 27	
Equipment and Tools	15,115 84	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	50,626 54	
		160,356 61

District No. 5 ($225,001.79)—Engineer, D. J. Miller, New Liskeard

Ferguson Highway	$68,877 02	
Ashley Mine Road	41,945 82	
Haileybury West Road	9,641 59	
New Liskeard-Elk Lake Road	7,952 63	
Charlton Road	3,518 80	
Krugerdorf Road	2,827 97	
Gowganda Road	2,475 26	
North Road	2,022 58	
Milberta Road	1,875 95	
New Liskeard-North Temiskaming Road	1,773 96	
Elk Lake-Charlton Road	1,058 46	
Greenwood's Bridge Road	1,016 50	
Equipment and Tools	6,512 77	
General Maintenance, Settlers' and Other Roads. Sundry Expenditure	73,502 48	
		225,001 79

District No. 6 ($270,378.85)—Engineer, D. Lough, Matheson

Kirkland Lake-Larder City-Cheminis Road	$142,595 03	
Ferguson Highway	25,435 93	
Timmins-Porquis Junction Road	15,755 05	
Goldthorpe-Kirkland Lake Road	5,355 71	
Shillington-Monteith-Iroquois Falls Road	2,432 68	
Porquis Junction-Iroquois Falls Road	1,932 72	
Matheson-Shillington-Connaught Road	1,899 97	
Equipment and Tools	11,940 97	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	63,030 79	
		270,378 85

District No. 7 ($92,474.54)—Engineer, W. B. Hutcheson, Cochrane

Cochrane-Hearst Road	$16,917 36	
Cochrane-Norembega Road	4,485 04	
Genier Road	2,326 37	
Ferguson Highway	1,352 80	
Hearst-Coppell Road	1,079 90	
Equipment and Tools	12,438 64	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	53,874 43	
		92,474 54

Roads and Bridges—Continued

District No. 8 ($281,344.10)—Engineer, A. J. Isbester, Fort William

International Highway	$90,110 57	
Dawson Road	57,091 87	
Trans-Canada Highway	16,937 46	
Oliver Road	6,422 85	
Sibley West Road	6,083 43	
Sturgeon Lake Road	3,211 76	
Silver Maintain Road	2,954 73	
South Hymers Road	2,428 64	
Kakabeka-Hymers Road	2,055 19	
Equipment and Tools	17,270 49	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	76,777 11	
		281,344 10

District No. 9 ($82,414.13)—Engineer, C. Tackaberry, Kenora

Trans-Canada Highway	$29,301 37	
Sioux Lookout-Dinorwic Road	2,395 15	
Kenora-Redditt Road	2,093 49	
Richan Road	1,187 68	
Equipment and Tools	15,294 95	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	32,141 49	
		82,414 13

District No. 10 ($57,505.92)—Engineer, R. T. Lyons, Fort Frances

Fort Frances-Rainy River Road	$12,700 86	
Kenora-Fort Frances Highway	2,112 85	
Indian Mission Road	1,963 12	
Devlin Road	1,495 14	
Sleeman-Morson Road	1,022 30	
Equipment and Tools	2,188 76	
General Maintenance, Settlers' and Other Roads, Sundry Expenditure	36,022 89	
		57,505 92
		$1,733,694 60
Less Repayments transferred from Refund Account		221,696 33
		$1,511,998 27

DEPARTMENT OF NORTHERN DEVELOPMENT

MISCELLANEOUS SERVICES

Section 11 (d) Assistance of Settlers; Feed Shortage

Feed	$6,931 37	
Services, Freight, Disbursements	599 31	
		7,530 68

Section 11 (f) Purchase and Distribution of Seed Grain

Purchase of Seed Grain	$8,227 52	
Services, Freight, Disbursements	1,491 65	
		9,719 17

Section 11 (h) Purchase of Cattle and Other Live Stock for Settlers and Farmers

Purchase of Cattle	$3,520 00	
Services, Freight, Disbursements	1,428 75	
		4,948 75

Settlers' Loan Account

Salaries and Wages	$8,037 50	
Contingencies	1,620 02	
Loans to Settlers	80,910 00	
		90,567 52
Total		$112,766 12

Trans-Canada Highway—Unemployment Relief ($55,447.44)
Ottawa Valley Section

From Pembroke through Mattawa to North Bay	$619 89

Thunder Bay Section

From Schreiber to Nipigon through Port Arthur and Fort William to English River	101 39

Western Section

From English River through Dyment, Dinorwic, Dryden, Kenora to Manitoba Boundary	575 93
General Expense	54,150 23
Amount transferred to Department of Labour, Unemployment Relief Act, 23 Geo. V, Chapter 65	$55,447 44

General Work—Unemployment Relief ($120,269.24)

District No. 1, Huntsville	$34 25
District No. 2, North Bay	39 50
District No. 5, New Liskeard	1 30
District No. 6, Matheson	4 81
District No. 7, Cochrane	5 10
General Expense Account	120,184 29
	$120,269 24

District No. 1 ($34.25)—Engineer, E. J. Hosking, Huntsville

Gravenhurst-Bala-Parry Sound Road	$34 25

District No. 2 ($39.50)—Engineer, G. A. White, North Bay

Settlers' and Other Roads	39 50

District No. 5 ($1.30)—Engineer, D. J. Miller, New Liskeard

Elk Lake-Ashley Mine Road	1 30

District No. 6 ($4.81)—Engineer, D. Lough, Matheson

Porquis Junction-Iroquois Falls Road	4 81

District No. 7 ($5.10)—Engineer, W. B. Hutcheson, Cochrane

Cochrane-Hearst Road	5 10
General Expense	120,184 28
Amount transferred to Department of Labour, Unemployment Relief Act, 23 Geo. V, Chapter 65	$120,269 24

BOARD CAMPS—UNEMPLOYMENT RELIEF ($3,525,676.52)

Trans-Canada Highway—Unemployment Relief

Ottawa Valley Section

From Pembroke through Mattawa to North Bay	$964,626 64

Thunder Bay Section

From Schreiber to Nipigon through Port Arthur and Fort William to English River	983,898 10

Trans-Canada Highway, Unemployment Relief—Continued

Western Section

From English River through Dyment, Dinorwic, Dryden, Kenora to Manitoba Boundary	$936,078 00	
General Expense	53,974 97	
		$2,938,577 71

General Work—Unemployment Relief

District No. 2 ($25,282.67)—Engineer, G. A. White, North Bay			
Field-Marten River Road	$22,312 92		
Algonquin Park Road	1,977 55		
Settlers' and Other Roads, Sundry Expenditure	992 20		
		$25,282 67	
District No. 3 ($82,532.91)—Engineer, A. M. Mills, Sudbury			
Levack-Cartier Road	$43,416 27		
Chapleau-Iron Bridge Road	38,748 41		
North Bay-Sault Road	368 23		
		82,532 91	
District No. 4 (84,780.59)—Engineer, G. J. Lamb, Sault Ste. Marie			
North Bay-Sault Road		$84,780 59	
District No. 8 ($145,212.38)—Engineer A. J. Isbester, Fort William			
International Highway	$101,303 36		
Dawson Road	43,909 02		
		$145,212 38	
District No. 9 ($113,442.84)—Engineer C. Tackaberry, Kenora			
Kenora-Fort Frances Highway	$85,435 39		
Sioux Lookout-Dinorwic Road	27,948 65		
Settlers' and Other Roads, Sundry Expenditure	58 80		
		113,442 84	
County of Haliburton ($135,203.18)—Engineer, J. M. Gibson, Minden			
Coboconk-Minden-Dorset Highway		135,203 18	
General Expense		644 24	
			$587,098 81
Amount transferred to Department of Labour, Unemployment Relief Act, 23 Geo. V, Chapter 65			$3,525,676 52

SETTLERS' CAMPS—UNEMPLOYMENT RELIEF ($205,118.15)

Trans-Canada Highway—Unemployment Relief

Ottawa Valley Section		
From Pembroke through Mattawa to North Bay	$96,134 66	
Thunder Bay Section		
From Schreiber to Nipigon through Port Arthur and Fort William to English River	26,149 79	
Western Section		
From English River through Dyment, Dinorwic, Dryden, Kenora to Manitoba Boundary	3,434 56	
		$125,719 01

General Work—Unemployment Relief

District No. 2 ($6,723.84)—Engineer, G. A. White, North Bay

Bonfield Spur	$3,810 67		
River Road	949 07		
Settlers' and Other Roads, Sundry Expenditure	1,964 10		
		$6,723 84	

District No. 3 ($16,535.04)—Engineer, A. M. Mills, Sudbury

North Bay-Sault Road	$10,325 64		
Espanola-Little Current Road	3,689 63		
Little Current-Gore Bay Road	147 14		
Settlers' and Other Roads, Sundry Expenditure	2,372 63		
		16,535 04	

District No. 4 ($23,283.24)—Engineer, G. J. Lamb, Sault Ste. Marie

North Bay-Sault Road	$20,234 14		
Settlers' and Other Roads, Sundry Expenditure	3,049 10		
		23,283 24	

District No. 6 ($746.56)—Engineer, D. Lough, Matheson

Munro Road		746 56	

District No. 8 ($24,916.71)—Engineer, A. J. Isbester, Fort William

Silver Mountain Road	$2,501 09		
Marks Road	1,093 53		
Forbes River Road	1,024 01		
Forbes Centre Road	1,018 15		
Settlers' and Other Roads, Sundry Expenditure	19,279 93		
		24,916 71	

County of Haliburton ($7,163.47)—Engineer, J. M. Gibson, Minden

Coboconk-Minden-Dorset Road		$7,163 47	
General Expense		30 28	
			79,399 14
Amount transferred to Department of Labour, Unemployment Relief Act, 23 Geo. V, Chapter 65			$205,118 15

UNEMPLOYMENT RELIEF, 1933

Bridges on the Trans-Canada Highway between Mattawa and Pembroke	$71,193 61
Bridge at Petewawa River, Trans-Canada Highway	$17,580 74
Haliburton-Eagle Lake Road	
Construction of a Road from Village of Haliburton to east boundary of Townships of Dysart and Guilford	$94,419 95
Gravelling, Trans-Canada Highway, North Bay to Point Alexander	$11,863 11
Bridges on the Trans-Canada Highway between Mattawa and North Bay	$9,444 32
Retread, Trans-Canada Highway, Tucker's Creek, Chalk River	$11,872 98
Grading, Trans-Canada Highway, Deux Rivieres-Stonecliffe	$1,073 70
Sultan-Swayze Township Road	
Unemployment Relief—Project 93	$2,906 02
Transferred to the Department of Labour, Unemployment Relief Act, 23 Geo. V, Chapter 65	$220,354 43

SPECIAL WARRANTS

Road between Larder Lake and Kirkland Lake	$99,394 05
Round Lake Bridge	$4,356 07

Relief Land Settlement Roads

District No. 5, New Liskeard	$448 80	
District No. 6, Matheson	20 80	
District No. 7, Cochrane	242 40	
		$712 00

Canadian National Exhibition

Disbursements for Northern Development Exhibit at Canadian National Exhibition	$490 30
Trip to Northern Ontario by members of the Executive of the Ontario Good Roads Association	$279 51

COLONIZATION ROADS BRANCH

Salaries and Contingencies—Salaries	$9,206 25	
Contingencies	712 59	
		$9,918 84
By-laws		119,292 12
Construction and Maintenance		59,417 24
Inspections		19,737 18
Storage and Insurance		200 10
Engineering and Surveying		321 66
Not otherwise provided for		69 00
Totals		$208,956 14

DEPARTMENT OF NORTHERN DEVELOPMENT

STATEMENT OF REVENUE FOR YEAR ENDED 31ST OCTOBER, 1933

	Capital	Ordinary	Total
Section 11 (B)—Roads.			
Sale of Equipment, Material, Supplies, Rentals, Refunds, etc.	$96,149 65	$125,546 68	$221,696 33
Note—Transferred as Expenditure Refund on Roads and Bridges Expenditure.			
Section 11 (f)—Seed Grain.			
Repayment of Principal	3,754 48		
Interest		1,387 54	5,142 02
Section 11 (f)—Agricultural Implements.			
Repayment of Principal	96 65		
Interest		77 27	173 92
Section 11 (h)—Cattle Purchase.			
Repayment of Principal	3,881 28		
Interest		184 92	4,066 20
Section 11 (d)—Assistance of Settlers, Feed Shortage.			
Repayment of Principal	91 98		
Interest		68	92 66
General Account.			
Bank Interest		3,286 88	3,286 88
Settlers' Loan Account.			
Repayment of Principal	23,448 77		39,415 93
Interest, Exchange, etc.		15,967 16	
Special Fund.			
Dam at Three Narrows' Lake	2,000 00		2,000 00
Totals	$129,422 81	$146,451 13	$275,873 94

DEPARTMENT OF NORTHERN DEVELOPMENT

ASSETS—OCTOBER 31ST, 1933

	Principal	Accrued Interest	Total
Notes Outstanding.			
Section 11 (d)—Feed Shortage	$58,078 14	$33,085 58	$91,163 72
Section 11 (f)—Seed Grain	101,363 35	49,162 72	150,526 07
Section 11 (f)—Agricultural Implements	16,770 70	9,333 36	26,104 06
Section 11 (h)—Cattle Purchase	16,882 10	2,266 51	19,148 61
	$193,094 29	$93,848 17	$286,942 46
Settlers' Loan Account.			
Loans Outstanding	769,464 84	104,968 29	874,433 13
	$962,559 13	$198,816 46	$1,161,375 59

CONTINGENT ASSETS

Roads, Land, Buildings, Plant, Equipment, Motors, Tractors, etc.	$396,782 21

W. H. LAWER,
Accountant.

Toronto, October 31st, 1933.

OFFICE OF SETTLERS' LOAN COMMISSIONER

January 24th, 1934

The Honourable W. Finlayson,
Minister of Lands and Forests,
East Block, Parliament Bldgs.,
Toronto, Ontario.

Dear Sir,—

Herewith you will please find Statement of the Operations of this Department ending October 31st, 1933.

Conditions through the North Country have not been very satisfactory to the settlers. Crops were not up to the mark in many Districts, and those having fairly satisfactory crops found it next to impossible to find a market. Prices of stock were very low in many cases and the conditions are somewhat reflected in the payments made by the settlers during the year.

Yours very truly,

F. Dane,
Commissioner.

STATEMENT OF LOANS ISSUED

To October 31st, 1933

Total Number of Applications Received:		
To October 31st, 1932	9,260	
Year ending October 31st, 1933	528	
		9,788
Loans Issued: Loans		
To October 31st, 1932	5,195	
Year ending October 31st, 1933 (new)	280	
		5,475

Amount granted	$1,832 545 00
Average Loan per settler	336 80
Amount applied for	3,817,234 00
Number of Loans issued	5,475
Number of Loans outstanding	2,999
Number of Loans paid in full	2,476

STATEMENT OF LOANS TO CREAMERIES AND OTHER LIKE ASSOCIATIONS

Included in the Above Statement

To October 31st, 1933

Applications and Loans	Amount Granted	Amount Owing
The Sudbury Dairy, Ltd	$24,000 00	Paid
The Kenora Dairy Co-Operative Association, Ltd	13,000 00	$13,000 00
Producers Co-Operative Creamery Co., Ltd., Lavallee, Ont	3,500 00	1,400 00
The Matheson Co-Operative Dairy Co., Ltd	7,370 00	4,753 63
The Cochrane Co-Operative Dairy Co., Ltd	7,830 00	5,893 48
Northern Co-Operative Co., Ltd., Rydal Bank, Ont	5,000 00	3,000 00
The Thunder Bay Co-Operative Dairy, Ltd	18,600 00	18,600 00
Fort Frances Creamery Co. Ltd., Fort Frances, Ont	5,000 00	5,000 00
Totals	$84,300 00	$51,647 11

Note.—The standing of the Kenora Dairy Co-Operative Association, which went into liquidation in 1922, and all property now under jurisdiction of the Department of Northern Development, as outlined in our report of 1924, is as follows:

Principal	$13,000 00
Accrued Interest	1,405 25
Total	$14,405 25

Note.—The Cochrane Co-Operative Dairy Company, Limited, has been sold by the creditors, and at the present time no settlement has been arrived at.

PAYMENTS ON ACCOUNT OF INTEREST

	Accrued Interest due	Interest Received	Per Cent.
Loans to Settlers	$512,232 85	$410,725 78	....
Loans to Creameries	22,383 87	18,922 65	....
Total	$534,616 72	$429,648 43	80.3

On Account of Principal

	Payments on Principal due	Principal Received	Per Cent.
Loans to Settlers	$1,320,090 96	$1,030,427 27	....
Loans to Creameries	59,044 76	32,652 89	....
Total	$1,379,135 72	$1,063,080 16	77.2

Total

	Payments due	Payments Received	Per Cent.
Loans to Settlers	$1,832,323 81	$1,441,153 05	....
Loans to Creameries	81,428 63	51,575 54	....
Total	$1,913,752 44	$1,492,728 59	77.9

Charges	$534,616 72	$1,832,545 00
Payments	429,648 43	1,063,080 16
Outstanding	$104,968 29	$769,464 84
Settlers	$101,507 07	$707,817 73
Creameries	3,461 22	51,647 11

STATEMENT OF LOANS ISSUED AND OUTSTANDING

District	Issued		Outstanding		
	No. of Loans	Issued	No. of Loans	Unpaid Principal	Unpaid Interest
Algoma	388	$130,160 00	292	$84,435 45	$7,612 59
Manitoulin	14	5,750 00	5	414 90	41 72
Nipissing	317	109,420 00	204	52,674 69	6,577 05
Sudbury	429	182,505 00	278	83,951 34	7,411 03
Kenora	496	167,840 00	247	61,502 77	8,540 62
Rainy River	395	134,070 00	211	52,565 05	6,172 88
Temiskaming	2,285	717,775 00	1,135	267,021 79	40,631 07
Thunder Bay	1,151	385,025 00	627	166,428 85	27,981 33
Totals	5,475	$1,832,545 00	2,999	$768,994 84	$104,968 29

Reserve for bad and doubtful debts 470 00

$769,464 84

		Settlers	Dairies
To 1932	$1,751,635 00		
To 1933	80,910 00	$75,750 00	$5,160 00

STATEMENT OF RECEIPTS, NOVEMBER 1st, 1932, TO OCTOBER 31st, 1933

RECEIPTS—ORDINARY

Date	Interest on Loans	Principal	Exchange
November, 1932	$975 96	$1,461 50	$0 02
December, 1932	1,233 16	1,309 96	....
January, 1933	1,059 14	1,530 70	....
February, 1933	903 68	2,971 25	....
March, 1933	1,590 53	2,707 39	....
April, 1933	1,212 69	1,637 57	15
May, 1933	1,655 85	1,886 51	15
June, 1933	1,131 46	1,530 41	02
July, 1933	1,387 16	1,943 78	....
August, 1933	1,194 86	2,196 85	....
September, 1933	1,650 31	1,788 00	Dr. 23
October, 1933	1,972 25	2,484 85	....
Totals	$15,967 05	$23,448 77	$0 11

SETTLERS' LOAN COMMISSIONER

Statement of Expenditure—Year Ending October 31st, 1933

Salaries		
F. Dane, Commissioner	$3,000 00	
A. E. MacLean, Senior Clerk	2,500 00	
F. M. Jack, Clerk Stenographer	1,200 00	
F. L. Wilson, Clerk Stenographer	962 50	
M. L. Potts, Stenographer	375 00	
		$8,037 50
Office Expense		
Stationery, etc.	$558 85	
Typewriter Expense	14 72	
Postage	5 00	
Telegrams	15 40	
Legal Expense	10 05	
Cost of Certificate of Search	11 80	
		615 82
Outside Expense		
Arthurs, E.	$10 00	
Barr, J. C.	18 74	
Bastien, J. A.	112 45	
Cragg, W. V.	41 50	
Crebo, Wm.	52 00	
Colley, J. W.	2 55	
Grigg, A.	111 44	
Hough, W.	42 00	
Huckson, A. H.	42 50	
Lowe, J. S.	10 00	
Marchildon, J. P.	6 50	
McDougall, J. T.	6 95	
MacPhie, W. F.	39 80	
Owens, H. B.	95 50	
Smith, D.	74 18	
Torrie, L.	228 64	
Trainor, W. J.	6 00	
Van Horn, L. E.	100 23	
Widdifield, F.	3 22	
		1,004 20
		$9,657 52

SUMMARY OF EXPENSES TO OCTOBER 31st, 1933

	To October 31st, 1932	Year ending October 31st, 1933	Total
Salaries	$142,599 78	$8,037 50	$150,637 28
Travelling expenses	1,259 85		1,259 85
Office expenses	14,878 73	615 82	15,494 55
Outside expenses	7,619 81	1,004 20	8,624 01
	$166,358 17	$9,657 52	$176,015 69
Refund on overpayments	53 92		53 92
Totals	$166,412 09	$9,657 52	$176,069 61

ENGINEER'S REPORT

ON THE OPERATIONS OF THE COLONIZATION ROADS BRANCH DURING THE FISCAL YEAR ENDING OCTOBER 31ST, 1933

Colonization Roads expenditures were made in the northern townships of the Counties of Addington, Frontenac, Hastings, Lanark, Leeds, Ontario, Renfrew, Simcoe, Victoria and Haliburton, and townships in the Districts of Muskoka, Parry Sound and Nipissing.

Nine Colonization Roads Inspectors, under the direction of the Colonization Roads Engineer, laid out and inspected the work.

The financial conditions throughout the Province were such that many municipalities found it necessary to reduce their expenditures on road work and for the same reason the ordinary Colonization Roads expenditures under direct grants were considerably curtailed.

Direct Grant Work

In ninety-two organized municipalities and twenty-six statute labour and unorganized townships direct departmental expenditures were made in improving and maintaining roads.

Expenditures under direct grants gave employment to 4,184 men, 1,476 teams and 72 trucks. The following work was accomplished: Cutting and burning, 16.6 miles; sidebrushing, 64.7 miles; stumping and grubbing, 9.85 miles; grading new road, 16.5 miles; regrading existing road, 80.2 miles; ditching, 15,054 cubic yards; surfacing, with gravel, new road, 24.9 miles; old road, 340.7 miles; with clay, 6.2 miles; with crushed stone, 6.2 miles; dragging, 9,690 miles; guard rail erected, 1,380 lineal feet; culverts installed, wood, 189; stone and concrete, 27; metal, 4; bridges erected and repaired, 12; excavation, earth, 14,146 cubic yards; rock, 13,211 cubic yards; surfacing material used, gravel, 48,033 cubic yards; clay, 7,581 cubic yards; crushed rock, 2,216 cubic yards.

By-law Work

Where an approved Colonization Roads By-law was in effect, on the satisfactory performance of the work, municipalities were reimbursed by the Department to the extent of 50 per cent. of the authorized expenditures.

Under by-law 101 municipalities received assistance towards the expenditures actually made on their roads. Municipalities to the number of sixty-two were subsidized on the purchase of machinery. Thirty-four municipalities which had appointed road overseers were reimbursed by 50 per cent. of the salary paid to the overseer to a maximum departmental contribution of $400.00.

A summary of the work under by-law indicates that employment was given to 13,849 men and 6,171 teams and the work included cutting and burning new road, 28.0 miles; sidebrushing existing road, 338.2 miles; stumping and grubbing, 64.4 miles; grading new road, 13.7 miles; regrading old road, 1,412.3 miles; ditching, 53,784 cubic yards; surfacing, with gravel, new road, 72.1 miles; old road, 671.3 miles; with clay, 143.2 miles; with crushed rock, 57.3 miles; dragging, 17,730 miles; guard rail erected, 4,181 lineal feet; culverts installed, wood, 1,082; stone and concrete, 146; metal, 69; bridges erected and repaired, 222; excavation, earth, 47,079 cubic yards; rock, 11,169 cubic yards.

Expenditures

Construction, maintenance (including machinery and equipment, etc.)	$59,417 24
Colonization Roads By-laws	119,292 12
Inspection	19,737 18
Storage and Insurance	200 10
Engineering and Surveying	321 66
Salaries, etc., not provided for	69 00
Total Expenditure under Colonization Roads Act	$199,037 30

Unemployment Relief Work

During the winter months to relieve distress caused by the unprecedented adverse financial conditions, Provincial-Dominion funds were arranged in order that Relief Works might be carried on and in the Colonization Roads area an expenditure of $95,728.40 was made on roads.

A summary indicates that the relief expenditure gave employment to 6,194 men and 1,880 teams and the work included cutting and burning 230.6 miles; sidebrushing, 64.5 miles; stumping and grubbing 4.1 miles; grading new road, 4.31 miles; regrading existing road, 15.0 miles; ditching, 1,081 cubic yards gravelling, new road, 67.1 miles; old road, 368.5 miles; clay surfacing, 8.2 miles; crushed rock, 1.5 miles; dragging, 220.5 miles; guard rail, erected, 1,429 feet; culverts installed, wood, 58; stone and concrete 8; metal, 2; earth excavation 36,328 cubic yards; rock excavation, 17,868 cubic yards.

Roy G. Sneath,
Engineer, Colonization Roads.

Toronto, February, 1934.

Electoral District	Cutti and Burni New Roa Mile
Algoma	.....
Cochrane North	.....
Cochrane South	18
Fort William	2
Kenora	.....
Manitoulin	3.
Muskoka	.....
Nipissing	0
Parry Sound	.....
Port Arthur	3
Rainy River	
Renfrew North	.....
Sault Ste. Marie	.....
Sturgeon Falls	1
Sudbury	.....
Temiskaming	3
Totals	33

APPENDIX A

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

Direct Expenditure

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching	Gravelling				Clay Surfacing		Crushed Rock			Dragging, Miles	Culverts				Bridges											Excavation	
							New		Repairs												New			Replaced			Repaired			Painted			
				New Miles	Repairs Miles	Cu.Yds.	Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered, Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Earth Cubic Yards	Rock Cubic Yards
Algoma	...	2.5	2.25	...	43.3	3,124	1.8	12	243.0	20,123	136.5	3,742	...	574	.4	22,190	7	...	5	12	...	...	...	...	...	...	...	...	...	...	...	1,568	285
Cochrane North	...	2.92	0.25	...	...	11,476	3.33	2,188	9.0	6,085	...	1,225	...	...	...	22,819	3	...	...	6	...	...	...	...	...	...	4	2	...	...	...	1,102	...
Cochrane South	18.92	20.65	18.15	1.75	2.80	21,072	38.77	54,864	70.00	32,845	28.0	28,121	...	6,595	...	33,067	27	...	...	173	1	...	...	...	...	...	13	...	...	...	...	169,740	35,423
Fort William	2.08	27.81	...	...	...	24,632	9.78	8,728	20.00	11,374	...	605	...	...	...	6,084	84	...	5	10	...	...	...	4	...	...	10	...	...	1	...	5,811	663
Kenora	...	3.7	.3	3.8	434.	425	1.2	458	209.5	9,889	3.1	1,627	...	...	...	8,423	16	...	...	10	1	...	...	...	...	...	16	...	...	...	...	581	212
Manitoulin	3.60	159.87	2.29	2.25	611.75	12,792	9.0	4,126	121.5	9,525	34.29	1,973	...	22	...	23,407	33	6	...	17	...	...	...	1	...	...	...	...	...	...	...	1,274	2,045
Muskoka	...	...	...	...	...	1,844	1.2	1,375	87 8	14,414	.45	239	...	...	...	6,409	3	...	...	13	...	...	...	...	...	...	...	...	...	...	...	4,025	13
Nipissing	0.50	44.0	0.50	...	24.50	1,264	4.01	275	8.0	11,150	3.50	1,686	...	...	...	6,560	17	1	...	10	...	...	...	1	...	...	...	...	...	...	...	1,795	170
Parry Sound	...	...	...	...	...	842	4.5	2,460	148.3	34,163	2.18	649	...	2,846	6.75	15,528	12	...	...	7	...	...	...	2	...	...	11	...	...	...	...	4,077	175
Port Arthur	3.75	20.0	1.02	6.02	...	16,456	13.73	15,721	...	5,449	...	36,599	...	...	...	4,434	61	...	1	16	5	...	1	...	...	...	...	...	...	...	...	17,217	872
Rainy River	.30	138.3	...	...	10.30	9,580	1.0	937	144.5	25,050	.40	855	...	...	...	7,423	11	...	...	18	...	...	...	...	...	...	8	...	...	...	...	1,755	370
Renfrew North	...	10.00	11.00	...	10.00	5	15.50	...	18.88	6,035	...	1,094	...	...	...	2,156	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sault Ste. Marie	...	...	...	...	...	2,107	...	...	33.0	5,673	.2	22	...	...	...	10,862	...	...	...	2	...	...	...	...	...	1	...	...	...	...	...	412	22
Sturgeon Falls	1.74	6.03	4.60	0.25	28.30	17,761	0.53	847	33.9	10,445	5.54	2,439	...	...	...	6,978	21	1	...	2	...	...	...	...	...	...	8	...	...	...	...	1,157	946
Sudbury	...	44.50	...	10.00	38.16	23,298	14.00	1,761	215.00	17,941	8.10	5,154	...	1,431	1.70	6,141	8	2	1	10	2	...	1	...	...	...	3	...	...	...	...	4,046	10,201
Temiskaming	3.09	7.16	2.34	1.40	1.0	12,724	57.24	30,141	32.50	16,821	1.70	2,378	...	399	...	15,179	28	...	...	27	4	...	...	10	...	...	9	...	...	...	...	891	12,090
Totals	33.98	487.44	42.70	25.47	1,204.11	159,402	175.59	123,893	1,394.88	236,982	23.96	88,408	...	11,867	8.85	197,660	633	10	12	333	13	...	2	18	...	1	82	2	...	1	...	215,851	63,487

Electoral District	Cuttin and Burnin New Road Miles
ALGOMA...........	.
COCHRANE NORTH..	......
COCHRANE SOUTH..	......
FORT WILLIAM.....	4.9
KENORA...........	3.9
MANITOULIN.......	1.0
NIPISSING.........	....
PORT ARTHUR......	1.4
RAINY RIVER......	7.0
SAULT STE. MARIE..	2.2
STURGEON FALLS...	....
SUDBURY..........	....
TEMISKAMING......	1.5
TOTAL........	22.1

APPENDIX B

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

NORTHERN DEVELOPMENT AGREEMENTS, 1933

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching Cu.Yds.	Gravelling				Clay Surfacing		Crushed Rock			Drag-ging, Miles	Culverts				Bridges											Excavation	
							New		Repairs												New			Replaced			Repaired			Painted			
				New Miles	Repairs Miles		Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered, Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Earth Cubic Yards	Rock Cubic Yards
ALGOMA	.1	6.8	.5	.3	36.3	2,607	1.9	135	85.3	6,035	.70	75	....	....	....	109	38	1	9	1	....	....	....	1	....	....	8	....	....	....	....	639	30
COCHRANE NORTH	....	1.50	....	....	44.5	....	.5	408	7.0	1,062	1.75	2,021	....	....	....	334	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	722	....
COCHRANE SOUTH	....	1.50	....	....	47.75	2,020	....	....	9.75	2,934	....	45	....	1,083	7.0	1	3	....	....	....	....	....	....	1	....	....	2	....	....	....	....	....	108
FORT WILLIAM	4.9	63.4	4.9	2.2	37.1	5,726	....	4,068	....	16.765	....	3,009	....	152	....	3,639	159	....	25	10	....	....	....	....	....	....	7	....	....	....	....	12,242	273
KENORA	3.9	30.2	5.4	3.3	52.0	3,266	4.9	1,652	42.6	2,353	0.1	153	....	....	....	50	65	1	....	1	....	....	....	....	....	....	6	....	....	....	....	18	110
MANITOULIN	1.0	24.01	1.62	1.20	11.50	1,957	4.75	1,100	183.31	15,610	....	376	....	....	....	835	31	18	4	2	2	....	....	....	....	....	3	....	....	....	....	1,316	2,277
NIPISSING	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
PORT ARTHUR	1.4	125.9	1.6	.2	5.2	3,850	12.3	5,222	....	....	....	1,895	....	....	....	1,120	57	....	....	6	1	....	....	3	....	....	2	....	....	....	....	5,481	75
RAINY RIVER	7.0	104.0	6.5	6.2	13.6	20,335	10.0	5,405	67.2	12,847	3.1	1,915	....	....	....	3,990	84	....	13	9	1	....	....	....	....	....	9	....	....	....	....	3,844	145
SAULT STE. MARIE	2.25	15.1	1.5	3.25	60.25	5,357	4.2	837	44.0	11,296	1.5	91	....	....	....	14	21	2	11	1	....	....	....	....	....	....	10	....	....	....	....	2,682	....
STURGEON FALLS	....	13.72	0.12	2.48	36.35	11,372	0.46	228	32.15	15,080	0.84	434	....	....	....	298	57	5	....	11	1	....	....	5	....	....	8	....	....	....	....	473	36
SUDBURY	....	19.06	0.50	....	169.85	5,517	1.10	370	50.53	12,537	2.35	1,978	....	1,829	3.50	160	93	4	1	7	....	....	....	....	....	....	6	....	....	....	....	....	....
TEMISKAMING	1.56	22.21	1.06	2.0	91.0	18,967	6.07	1,160	127.1	20,469	3.10	1,801	....	73	.02	391	76	....	....	16	4	....	....	3	....	....	7	....	....	....	....	....	1,787
TOTAL	22.11	427.40	23.70	21.13	605.40	80,974	46.18	20,585	648.94	116,988	13.44	13,793	....	3,137	10.52	10,941	687	31	63	64	9	....	....	13	....	....	68	....	....	....	....	27,417	4,841

APPENDIX C

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

UNEMPLOYMENT RELIEF WORK

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching Cu.Yds.	Gravelling				Clay Surfacing		Crushed Rock			Dragging, Miles	Culverts				Bridges											Excavation	
							New		Repairs												New			Replaced			Repaired			Painted		Earth	Rock
				New Miles	Repairs Miles		Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered, Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Cubic Yards	Cubic Yards
ALGOMA..........	1.8	6.5	.9	3.6	3.3	17,870	.9	1,797	....	....	.1	175	....	....	....	....	2	....	11	16	....	....	....	....	....	....	....	....	....	....	....	18,434	97,752
FORT WILLIAM.....	18.49	17.46	1.67	2.04	4.50	27,126	21.84	20,478	32.0	16,022	....	76,716	....	....	....	755	18	....	22	42	1	....	....	....	....	....	2	....	....	....	....	95,855	13,044
HALIBURTON.......	2.6	2.9	2.6	5.03	2.6	2,610	2.7	4,871	1.9	392	....	....	....	....	....	40	14	41	....	5	....	....	....	....	....	....	....	....	....	....	....	24,448	85,751
KENORA..........	4.5	3.0	7.0	4.9	....	5,188	3	3,984	....	....	1.0	2,347	....	....	....	9	....	....	....	8	....	....	....	....	....	....	....	....	....	....	....	43,761	22,327
MANITOULIN.......	.04	....	....	....	....	132	.04	172	....	12	....	....	....	....	....	4	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2,509	757
PORT ARTHUR.....	5.51	7.86	.54	2.19	1.0	7,158	9.22	11,904	....	2,614	....	655	....	....	....	....	6	....	....	11	....	....	....	....	....	....	....	....	....	....	....	29,925	6,534
SUDBURY..........	3.0	36.0	6.0	8.0	37.0	8,470	2.0	530	....	....	1.0	600	....	....	....	27	17	6	....	1	1	....	....	....	....	....	....	....	....	....	....	58,454	92,475
TOTALS......	35.94	73.72	18.71	25.76	48.4	68,554	39.70	43,736	33.9	19,040	2.1	80,493	....	....	....	835	57	47	33	83	2	....	....	....	....	....	2	....	....	....	....	273,386	318,640

Electoral Di
Fort Willia
Kenora.....
Nipissing...
Port Arthu
Renfrew No
Total..

APPENDIX D

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

Trans-Canada Highway

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching Cu.Yds.	Gravelling				Clay Surfacing		Crushed Rock			Drag-ging, Miles	Culverts				Bridges										Excavation	
				New Miles	Repairs Miles		New		Repairs		Length, Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered Miles		Wood	Stone	Concrete	Metal	New			Replaced			Repaired			Painted		Earth Cubic Yards	Rock Cubic Yards
							Length Miles	Cubic Yards	Length Miles	Cubic Yards											Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel		
Fort William	18.2	14.0	24.0	30.8	7.2	159,279	25.8	53,483	....	11,624	....	95,809	....	....	....	2,493	130	1	20	38	14	....	....	1	....	....	1	....	....	1	....	651,452	53,224
Kenora	11.8	.6	20.6	38.5	....	10,886	.2	498	....	....	2.9	6,932	....	....	....	....	57	15	....	76	3	....	....	....	....	....	....	....	....	....	....	424,600	129,521
Nipissing	....	....	....	....	....	1,396	....	13,276	....	....	....	5,509	....	....	....	....	....	....	....	100	....	....	....	....	....	....	....	....	....	....	....	335,362	155,985
Port Arthur	3.1	6.8	9.9	11.3	.4	46,369	17.3	54,233	....	4,539	....	124,451	....	....	....	26	31	....	2	31	....	....	....	....	....	....	....	....	....	....	....	151,215	16,172
Renfrew North	....	....	....	....	....	3,674	....	26,147	10.7	6,348	....	15,488	....	....	....	....	....	....	....	78	....	....	....	....	....	....	....	....	....	....	....	449,344	182,651
Total	33.1	21.4	54.5	80.6	7.6	221,604	43.3	147,637	10.7	22,511	2.9	248,189	....	....	....	2,519	218	16	22	323	17	....	....	1	....	....	1	....	....	1	....	2,011,973	537,553

Electoral District	Cutt an Burn Ne Ro Mi
Algoma..........	
Cochrane North..	5
Cochrane South..	2
Fort William.....	....
Haliburton.......	....
Kenora..........	
Manitoulin.......	
Muskoka.........	....
Nipissing.........	1
Parry Sound......	....
Port Arthur......	
Rainy River......	
Renfrew North...	....
Sault Ste. Marie..	1
Sturgeon Falls...	2
Sudbury..........	5
Temiskaming......	
Total........	21

APPENDIX E

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

DIRECT RELIEF

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching Cu.Yds.	Gravelling				Clay Surfacing		Crushed Rock			Dragging, Miles	Culverts				Bridges											Excavation	
				New Miles	Repairs Miles		New		Repairs												New			Replaced			Repaired			Painted		Earth Cubic Yards	Rock Cubic Yards
							Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Length, Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered, Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel		
ALGOMA	6.8	61.1	3.8	4.1	73.1	35,109	7.5	8,314	76.4	27,546	29.4	3,781				4	38		15	26				1			1	2				42,996	23,949
COCHRANE NORTH	57.0	92.9	33.6		11.5	150,397	6.0	4,632	27.0	9,126	6.0	13,261		25		2,065	152			42				2			4					8,997	
COCHRANE SOUTH	28.2	90.9	21.5	6.6	10.8	67,217	2.3	1,923	10.4	8,404	1.7	9,981		1,443	3.0	984	48			87	2						5					23	886
FORT WILLIAM		15.6			.7	516				1,318		600				15	24															1,011	5
HALIBURTON																																	
KENORA	4.3	107.7	10.9	1.6	10.0	2,898	1.2	772	113.4	11,214	5.1	6,307				1,745	53	1		8												6,015	6,275
MANITOULIN	4.0	8.0	4.5	7.0	12.0	16,272	11.0	6,603	2.0	3,467	2.0	862				20	35				1			1								331	3,010
MUSKOKA																																	
NIPISSING	10.2	14.1	3.1	1.7	0.6	1,313	.5	515		59							12	1														77	302
PARRY SOUND		2.0	.2	.1		3,842			15.4	7,986	4.4	1,302				234	6															12,758	516
PORT ARTHUR	4.0	13.7	.8	.3	17.4	3,019	.9	1,123	14.0	7,306		440				42	19				1			2			3					852	470
RAINY RIVER	3.0	19.8	3.6	1.1	2.4	16,602	1.3	1,222	31.8	3,450	.2	412				225	19			5							1					482	110
RENFREW NORTH																																	
SAULT STE. MARIE	14.4	29.5	9.6	.8	7.5	10,546	2.0	1,544	49.6	4,272	33.0	1,112	30				27			2	1						1					905	8,507
STURGEON FALLS	26.9	55.6	9.4	1.4	14.7	47,915	10.5	7,030	101.3	25,450	20.4	13,247				6,349	71	2		8	4			2			16					8,458	6,287
SUDBURY	52.0	34.0	14.0	7.0	25.0	38,221	6.4	7,894	22.0	15,909	2.2	27	390	6,176		30	90	10	4				1	14			6					2,023	1,754
TEMISKAMING	8.5	23.5	1.2		3.6	12,720	1.6	2,988	15.6	6,800		35				1,051	55			10													
TOTAL	219.3	568.4	116.2	31.7	189.3	406,587	51.2	44,560	478.9	132,307	104.4	51,367	420	7,644	3.0	12,764	649	14	19	188	9		1	22			37	2				84,928	52,071

Electoral District	Cutting and Burning New Road Miles	S Br Ex F N
APPENDIX A.......	33.98	4
APPENDIX B.......	22.11	4
APPENDIX C.......	35.94	
APPENDIX D	33.1	
APPENDIX E.......	219.3	5
TOTAL........	344.3	1,5

APPENDIX F

DEPARTMENT OF NORTHERN DEVELOPMENT—ANNUAL REPORT, 1932-1933

Recapitulation of Work Supervised by the Department

Electoral District	Cutting and Burning New Road Miles	Side Brushing Existing Road Miles	Stumping and Grubbing Miles	Grading		Ditching	Gravelling				Clay Surfacing		Crushed Rock			Drag-ging, Miles	Culverts				Bridges											Excavation	
							New		Repairs												New			Replaced			Repaired			Painted			
				New Miles	Repairs Miles	Cu.Yds.	Length Miles	Cubic Yards	Length Miles	Cubic Yards	Length Miles	Cubic Yards	Number Yards Crushed	Number Yards Hauled	Length Road Covered Miles		Wood	Stone	Concrete	Metal	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Concr.	Wood	Steel	Earth Cubic Yards	Rock Cubic Yards
Appendix A.......	33.98	487.44	42.70	25.47	1,204.11	159,402	175.59	123,893	1,394.88	236,982	223.96	88,408	....	11,867	8.85	197,660	333	10	12	333	13	....	2	18	....	1	82	2	....	1	....	215,851	63,487
Appendix B.......	22.11	427.40	23.70	21.13	605.40	80,974	46.18	20,585	648.94	116,988	13.44	13,793	....	3,137	10.52	10,941	687	31	63	64	9	....	....	13	....	....	68	....	....	....	....	27,417	4,841
Appendix C.......	35.94	73.72	18.71	25.76	48.4	68,554	39.70	43,736	33.9	19,040	2.1	80,493	....	....	....	835	57	47	33	83	2	....	....	....	....	....	2	....	....	....	....	273,386	318,640
Appendix D......	33.1	21.4	54.5	80.6	7.6	221,604	43.3	147,637	10.7	22,511	2.9	248,189	....	....	....	2,519	218	16	22	323	17	....	....	1	....	....	1	....	....	1	....	2,011,973	537,553
Appendix E.......	219.3	568.4	116.2	31.7	189.3	406,587	51.2	44,560	478.9	132,307	104.4	51,367	420	7,644	3.0	12,764	649	14	19	188	9	....	1	22	....	....	37	2	....	....	....	84,928	52,071
Total........	344.3	1,578.36	255.81	184.66	2,054.81	937,121	355.97	380,411	2,567.32	527,828	346.80	482,250	420	22,648	22.37	224,719	1,944	118	149	991	50	....	3	54	....	1	190	4	....	2	....	2,613,555	976,592

ANNUAL REPORT

OF

The Commissioner of the Ontario Provincial Police

1933

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO

SESSIONAL PAPER No. 51, 1934

ONTARIO

TORONTO
Printed and Published by Herbert H. Ball, Printer to the King's Most Excellent Majesty
1934

To His Honour Herbert Alexander Bruce, Esq.,
Lieutenant-Governor of the Province of Ontario.

MAY IT PLEASE YOUR HONOUR:

The undersigned has the honour to present to Your Honour the Report of The Commissioner of the Ontario Provincial Police for the year ending 31st October, 1933.

Respectfully submitted,

WILLIAM H. PRICE,
Attorney-General.

Toronto, March 22, 1934.

ONTARIO PROVINCIAL POLICE

Commissioner

MAJOR-GENERAL V. A. S. WILLIAMS, C.M.G.

Criminal Investigation Branch

W. H. STRINGER, Chief Inspector

Inspectors

J. MILLER A. B. BOYD A. H. WARD
E. D. L. HAMMOND E. C. GURNETT, M.M.

Staff Inspectors

W. C. KILLING A. MOSS E. T. DOYLE

Liquor Control Investigation Branch

F. E. ELLIOTT, Chief Inspector

Inspector

E. ZINKANN

Motorcycle Patrol

J. A. GRANT, M.M., Inspector-in-Charge

Area Inspectors

F. G. JEROME T. G. P. LUCAS S. HUNTER

No. 1	District,	Windsor............	District	Inspector	S. Oliver.
No. 2	"	London............	"	"	H. Gardner, M.M.
No. 3	"	Hamilton..........	"	"	C. A. Jordon.
No. 4	"	Niagara Falls.......	"	"	C. F. Airey, M.S.M.
No. 5	"	Toronto............	"	"	A. R. Elliott.
No. 6	"	Kitchener..........	"	"	W. T. Moore.
No. 7	"	Barrie.............	"	"	J. H. Putman.
No. 8	"	Belleville...........	"	"	W. H. Lougheed.
No. 9	"	Ottawa............	"	"	P. Walter.
No. 10	"	Haileybury.........	"	"	F. B. Creasy.
No. 11	"	Sudbury...........	"	"	A. H. Palmer.
No. 12	"	Port Arthur........	"	"	W. G. Ingram.

Annual Report of the Commissioner of Police for Ontario, 1933

Ontario Provincial Police,
Headquarters, Toronto,

The Honourable the Attorney-General,
Parliament Buildings, Toronto, Ontario.

Sir,—I have the honour to submit herewith my Annual Report for the year ending October 31st, 1933.

Strength and Distribution of the Force on October 31st, 1933

	Commissioner's Office	Crim. Invest. Branch	L.C.I. Branch	Motorcycle Patrol	Headquarters Garage	No. 1 District	No. 2 District	No. 3 District	No. 4 District	No. 5 District	No. 6 District	No. 7 District	No. 8 District	No. 9 District	No. 10 District	No. 11 District	No. 12 District	Total Strength
Commissioner	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Chief Inspector, C.I.B.	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Staff Inspectors	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Accountant	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Inspectors, C.I.B.	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	5
Chief Insp., L.C.I.B.	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Inspectors, L.C.I.B.	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Inspector i/c M.C.P.	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
District Inspectors	...	...	...	...	...	1	1	1	1	1	1	1	1	1	1	1	1	12
Area Insps., M.C.P.	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Sergeants	...	...	...	...	...	1	1	1	1	1	1	1	1	2	2	1	1	14
Provincial Constables	2	...	...	...	...	16	15	7	10	19	14	10	13	15	21	13	19	174
Provincial Constables N.M.C.P.	...	...	...	...	...	...	...	...	...	...	...	2	...	...	3	3	...	8
Provincial Constables M.C.P.	...	...	...	79	...	...	...	...	...	...	...	...	...	...	...	...	...	79
Special Constables (Permanent)	...	...	1	...	...	...	1	...	...	1	1	1	5	1	1	...	...	12
Special Constables (Temporary)	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	2
Totals	7	6	3	83	...	18	18	10	12	22	17	15	20	19	28	19	21	318
Insp. of Automobiles	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Chauffeurs and Mechanics	...	...	...	...	11	2	1	1	1	...	2	1	1	2	1	1	1	25
Clerks, etc.	8	1	1	3	...	1	1	1	1	1	1	1	1	1	1	1	1	25
Grand Totals	15	7	4	86	12	21	20	12	14	23	20	17	22	22	30	21	23	369
Automobiles	...	...	...	...	13	3	5	2	6	6	4	2	1	4	5	3	2	56
Motor Cycles	...	...	...	...	...	...	...	...	...	...	...	2	...	...	3	3	...	8

For purposes of administration the Province is divided into twelve Districts numbered consecutively one to twelve with headquarters as follows:

No. 1 District, Windsor	No. 7 District, Barrie
No. 2 District, London	No. 8 District, Belleville
No. 3 District, Hamilton	No. 9 District, Ottawa
No. 4 District, Niagara Falls	No. 10 District, Haileybury
No. 5 District, Toronto	No. 11 District, Sudbury
No. 6 District, Kitchener	No. 12 District, Port Arthur

Location of Officers

Location	Officers	Sergeants	Prov. Constables	Prov. Constables M.C.P.	Spec. Cons. (Perm.)	Spec. Cons. (Temp.)	Chauffeurs and Mechanics	Cars or Motor cycles
Headquarters:								
Toronto	14		2	1	1		11	13
No. 1 District:								
Windsor	1	1	11	1			2	3
Amherstburg			2					
Leamington			2	1				
Belle River			1					
Essex				1				
Maidstone				1				
Kingsville				1				
No. 2 District:								
London	2	1	4	1			1	2
Chatham			2	1	1			1
Tilbury			1	1				
Sarnia			3	1				1
St. Thomas			1	1				
Woodstock			1	1				
St. George				1				
Brantford			1	1				
Simcoe			2					1
Ingersoll				1				
Melbourne				1				
Dresden				1				
Lambeth				1				
Blenheim				1				
Paris				1				
Tillsonburg				1				
Shedden				1				
Wardsville				1				
No. 3 District:								
Hamilton	1	1	6			1	1	2
Milton			1					
Palermo				1				
Waterdown				1				
Dundas				1				
Hamilton Beach				1				
Oakville				1				
Burlington				1				
No. 4 District:								
Niagara Falls	1	1	3				1	2
Ridgeway			1	1				1
Fort Erie			2					
Welland			2	1				1
Dunnville			1	1				1
St. Catharines			2					1
Grimsby			1					
Beamsville				1				
Caledonia				1				
St. Davids				1				
Stoney Creek				1				

LOCATION OF OFFICERS—Continued

Location	Officers	Sergeants	Prov. Constables	Prov. Constables M.C.P.	Spec. Cons. (Perm.)	Spec. Cons. (Temp.)	Chauffeurs and Mechanics	Cars or Motor cycles
No. 5 District:								
Toronto	2	1	16		2			5
Brampton			1	1				1
Cooksville			1	1				
Oshawa			1					
Cannington			1					
Pickering				1				
Thornhill				1				
Mimico				1				
Whitby				1				
Scarboro				1				
Highland Creek				1				
Richmond Hill				1				
Islington				2				
Port Credit				1				
No. 6 District:								
Kitchener	1	1	5	1			2	2
Walkerton			1	1				
Wiarton			1					
Goderich			1					
Stratford			1	1	1			1
Palmerston			1					
Guelph			1					
Puslinch				1				
Rockwood				1				
Meaford			1					
Owen Sound			2	1				1
Mitchell				1				
Durham				1				
Arthur				1				
No. 7 District:								
Barrie	1	1	2	1			1	1
Alliston			1					
Midland			1		1			
Orillia			1	1				
Wasaga Beach			1					
Collingwood			1					
Orangeville			1					
Bracebridge			1					
Huntsville (N.M.C.P.)			1					1
Gravenhurst (N.M.C.P.)			1					1
Parry Sound			1					
Burks Falls			1					1
Bradford				1				
No. 8 District:								
Belleville	1	1	3	2			1	1
Bancroft			1					
Madoc					1			
Marmora					1			
Picton			1					
Lindsay			1	1				
Haliburton			1					
Peterborough			1	1	1			
Cobourg			1					
Brighton			1					
Bowmanville			1	1				
Napanee			1	1				
Enterprise					1			
Colborne				1				

LOCATION OF OFFICERS—Continued

Location	Officers	Sergeants	Prov. Con. stables	Prov. Con- stables M.C.P.	Spec. Cons. (Perm.)	Spec. Cons. (Temp.)	Chauf- feurs and Mech- anics	Cars or Motor cycles
Port Hope				1				
Kingston			1	1				
Sharbot Lake					1			
No. 9 District:								
Ottawa	1	1	2	1			1	1
Rockland			1	1				
Cornwall		1	2	1			1	1
Morrisburg			1	1				
Renfrew			1					
Pembroke			1					
Smith's Falls				1				
Perth			1					
Brockville	1		1	1				2
Gananoque			1					
Prescott			1	1				
Hawkesbury			1	1				
L'Orignal					1			
Lancaster			1					
Alexandria			1					
Arnprior				1				
Kemptville				1				
No. 10 District:								
Haileybury	1	1	2				1	2
Haileybury (N.M.C.P.)			1					1
Cobalt			1					
Ansonville			1					
Matheson (N.M.C.P.)			1					1
Elk Lake			1					
Timmins			2					
Kirkland Lake			3					1
Gowganda			1					
Kapuskasing			2					
Englehart			1					
North Bay			1		1			1
North Bay (N.M.C.P.)			1					1
Sturgeon Falls			1					
Mattawa			1					
Temagami			1					
Cochrane		1	2					1
Hearst			1					
Fraserdale			1					
No. 11 District:								
Sudbury	1	1	3				1	1
Sudbury (N.M.C.P.)			1					1
Warren (N.M.C.P.)			1					1
Foleyet			1					
Capreol			1					
Little Current			1					1
Espanola						1		
Sault Ste. Marie			2					1
Sault Ste. Marie (N.M.C.P.)			1					1
Blind River			1					
Chapleau			1					
Hornepayne			1					
Bruce Mines			1					
Gogama			1					

LOCATION OF OFFICERS—Continued

Location	Officers	Sergeants	Prov. Con. stables	Prov. Con- stables M.C.P.	Spec. Cons. (Perm.)	Spec. Cons. (Temp.)	Chauf- feurs	Cars or Motor cycles
No. 12 District:								
Port Arthur	1	1	4	....	....	....	1	2
Fort William	....	....	2	....	....	....	....	....
Nipigon	....	....	1	....	....	....	....	....
Nakina	....	....	1	....	....	....	....	....
Kenora	....	....	3	....	....	....	....	....
Sioux Lookout	....	....	2	....	....	....	....	....
Dryden	....	....	1	....	....	....	....	....
Minaki	....	....	1	....	....	....	....	....
Fort Frances	....	....	2	....	....	....	....	....
Rainy River	....	....	1	....	....	....	....	....
Gold Pines	....	....	2	....	....	....	....	....

CHANGE IN PERSONNEL

The following retirements from the Force became effective during the year 1932-33:

	Re- signed	Per- mitted to Resign	Dis- missed	Super- annuated	Died	Struck off Strength	Total
Assistant Commissioner	....	....	....	1	....	....	1
Inspectors, L.C.I.B.	....	....	....	....	....	....	....
District Inspectors	....	....	....	....	....	....	....
Sergeants	....	....	....	....	....	....	....
Provincial Constables	....	8	1	....	2	....	11
Provincial Constables M.C.P.	1	....	1	....	....	....	2
Provincial Special Constables	....	1	....	....	....	1	2
Total	1	9	2	1	2	1	16

The strength of the Force as of October 31st, 1933, stood at 369 all ranks. Sixteen members of the Force and two of the administrative staff were struck off strength during the year and no new appointments made.

TRANSFERS, ETC.

In keeping with the policy of the Force in maintaining its efficiency a number of transfers of members of the Force have been made from one part of the Province to another. There have also been transfers to fill vacancies caused by deaths, resignations, etc., but in the interest of economy these transfers have been kept as low as possible.

CONDUCT AND DISCIPLINE

The conduct and discipline of all ranks has with few exceptions been excellent, and a very high standard has been maintained. The members of the Force have shown a commendable spirit of loyalty and efficiency, and the Inspectors in charge of Districts express appreciation of the manner in which the men under them have performed their duties.

Many letters of commendation have been received by me from members of the Government, private citizens, Police Departments, Crown Attorneys, Children's Welfare Societies in the Province, and many individuals and organizations in the United States, speaking in the highest terms of the work done and services rendered by all branches of the Force.

THE HEALTH OF THE FORCE

The general health of the Force has been good. A small percentage has been off duty for varying periods from colds, influenza, etc., contracted by exposure to the severe weather. There has been a larger number off duty suffering from injuries received in the execution of their duties, mostly in connection with unemployed disturbances and strikes. The duties of the Motorcycle Patrol are more hazardous than the work of the constables attached to the district detachments, and I regret to say that again a number of them have been incapacitated from duty owing to serious injuries received whilst in the execution of their duties.

DEATHS

I regret to have to record during the year the deaths of the following members of the Force:

Provincial Constable John McKee, No. 12 District Headquarters, Port Arthur, who died suddenly from heart failure on June 11th, 1933.

The late Provincial Constable had been in his usual good health and worked with his fellow officers during the night of the 10th-11th June. At 1 p.m. on the 11th his District Inspector spoke to him over the telephone regarding his duties and it was a great shock for him to be notified a few hours later that he had succumbed to a sudden heart attack. He was considered an exceptionally able Constable who had gained and held the respect of his superior officers and the public with whom he came in contact. His death was a distinct loss to the Force.

Provincial Constable Dorema Campeau, Sturgeon Falls Detachment, No. 10 District, died at the Lockwood Clinic, Bloor Street, Toronto, on October 28th, 1933, after an operation for appendicitis.

Provincial Constable Campeau was an officer of the type who makes many friends and few enemies. All his work since joining the Force had been done in Northern Ontario, where his fellow officers held him in the highest esteem. He had a first-class record and, being of French-Canadian extraction, his bilingual ability made him a very valuable man. His death was a great loss to the Force.

GENERAL

The total number of cases prosecuted by members of the Force under all Acts and Statutes during the year was 19,540, a decrease of 2,541 over 1931-32.

There has been a slight increase in some of the more serious crimes against property, such as robbery with violence, breaking and entering, and theft, whilst serious crimes against the person, such as rape and attempts, incest, indecent assault, etc., are practically equal to 1931-32.

Prosecutions under the Criminal Code and all other Statutes (exclusive of The Highway Traffic Act and The Liquor Control Act) numbered 6,181, a decrease of 441 over 1931-32.

Prosecutions under The Liquor Control Act number 2,996, a decrease of 1,278 over 1931-32.

Prosecutions under The Highway Traffic Act numbered 10,363, a decrease of 822 over 1931-32.

A classified return of all prosecutions, convictions, dismissals, etc., will be found on pages 34-38.

In comparing the work accomplished by members of the Force with that for the preceding year, I find conditions generally satisfactory.

In all prosecutions instituted by members of this Force, the utmost assistance has been given by Crown Attorneys and Police Magistrates, and I find that the general good feeling between the members of the Force and the law officers they come in contact with has been well maintained.

The number of investigations made by members of the Force in matters of every conceivable description was 31,005.

These cover a great range, and in addition to complaints of infractions of the Criminal Code, Liquor Control Act, and other Statutes, include requests to locate missing persons for private individuals and other Police Forces, foreign consuls, and municipal authorities in Great Britain and Ireland, many European countries and the United States.

The members of the Force have efficiently dealt with all matters brought to their notice in their respective districts, and it is gratifying to report that with very few exceptions the numerous problems in connection with law enforcement have been dealt with in such a way as to leave very little to be desired.

The value of the work done by the members of the Force on detachment cannot be measured by the statistical records. Especially is this so in Northern Ontario, where Provincial Constables are called upon for unimaginable purposes, and where they are expected to be the guide, counsellor and friend of settlers, trappers, prospectors, Indians, etc. As a case in point I quote here, briefly, extract from a report submitted by a Provincial Constable doing duty in Port Arthur District:

> "On Saturday I was informed that several Indians were very sick and in need of medical attention across the river at Dog Lake. I at once proceeded to make a visit to all the shacks on the Island and found some of the Indians in very bad physical condition. Two squaws had just been confined and were especially in need of medical attention, they had not received the proper care at childbirth and the babies were suffering from a skin disease.
>
> "I came back and wired the Indian Agent to send a doctor in as soon as possible. In the meantime I succeeded in getting two nurses up by freight train, whom I met and took to the island by dog team. They rendered first aid to the squaws and babies and no doubt saved one woman's life as peritonitis had set in and she would have hardly lasted until the doctor's arrival. The doctors did not arrive until the 30th, when two came in by aeroplane,

which I also met, and took the doctors by dog team to where the sick Indians were.

"The doctors treated the following patients:

Indian woman for childbirth.
" " " "
Two babies for skin disease and club feet.
1st Indian " paralysis from hips down.
2nd " " leg and ankle disease.
3rd " " pneumonia and tuberculosis.
4th " " stomach 'flu.
5th " " heart trouble, etc.

"In addition a number of young children who were sick with colds and bronchities were supplied with medicine."

This is just one instance of work performed that does not come under the regular category of Police duties but yet is being done continually by detachments of this Force in Northern Ontario.

The work of the Inspectors in charge of the various districts and their staffs, also of investigation branches, has been most creditably carried out and will be found in greater detail in the reports submitted to my office by the officers in charge.

INSPECTIONS

I have visited and inspected District Headquarters and detachments in many parts of the Province and the Staff Inspectors attached to my office have made continuous visits to all District Headquarters and detachments throughout the year conferring with all ranks on matters pertaining to their duties and in addition cementing the close co-operation now existing between the members of this Force, other Police Forces and the public.

VICE-REGAL TOUR OF SOUTHERN AND WESTERN ONTARIO

His Excellency, the Governor-General, and the Countess of Bessborough, accompanied by their Suite, made an official tour of Southern and Western Ontario during the month of October, 1933.

In the course of the tour the following were among the places visited: Guelph, Kitchener, Stratford, Goderich, Sarnia, Windsor, Chatham, St. Thomas, Aylmer, Simcoe, Dunnville, Port Colborne, Fort Erie, Niagara Falls, St. Catharines, Hamilton, Paris, London, Woodstock, Galt, Gravenhurst, Orillia, Barrie, Aurora and Perth. Only a short stop was made at Toronto.

At all points visited members of this Force actively assisted the local Forces in making suitable arrangements for the safety and convenience of the Vice-Regal party. One of my Staff Inspectors was attached to the party for the period of the tour, at the conclusion of which Their Excellencies were pleased to comment most favourably on the efficiency of the police arrangements.

OFFENSIVE WEAPON PERMITS

By virtue of amendments passed by the Parliament of Canada at the 1933 session, sections of the Criminal Code of Canada dealing with offensive weapons were drastically changed and the system of issuing permits for pistols, revolvers, and other concealable weapons was altered and to some extent centralized.

The amendments restricted the power to issue permits to the Commissioner of the Royal Canadian Mounted Police and to persons authorized by the Attorney-General of each Province.

On July 15th, 1933, you appointed me as the person to issue the permits authorized by the Criminal Code.

A standard form of application has been drafted which has to be completed by all applicants for permits and a system of records established. The individual applications are checked by the Staff Inspector assigned to this duty and when he is satisfied that the application is a proper one he submits same to me for approval. Upon approval the permits are completed and are signed by me, also in the issuing of permits, i.e., checking, recording, filing, etc., the Staff Inspector so employed has to devote the whole of his time.

During the period July 15th, 1933, to October 31st, 1933, a total of 4,546 revolver or pistol permits (Form 76) were issued, as were also 135 alien weapon permits (Form 76B—Rifles and Shotguns). Of the revolver permits approximately 4,000 of all issued were to employees of banks, financial houses, and members of authorized shooting clubs.

Many requests for information regarding the new law were received and in answering same an endeavour was made to make known to the public the requirements governing offensive weapons. To give you some idea of the clerical work involved there were written in one month 480 letters in regard to weapon permits.

COUNTY CONSTABULARIES

Members of this Force are now performing the duties of Acting High Constables in each of the following counties:

Essex
Brant
Oxford
Norfolk
Elgin
Kent
Lambton
Hastings
Glengarry
Halton
Lincoln
Welland
Haldimand
Ontario
Peel
Stormont
Dundas
Huron
Waterloo
Bruce
Grey
Wellington
Perth
Simcoe
Renfrew
Leeds
Dufferin
Prince Edward
Victoria and Haliburton
Peterborough
Northumberland and Durham
Lennox and Addington
Frontenac
Grenville
Prescott and Russell
Middlesex

Twenty-seven offices for High Constables have been equipped and are being maintained by us; nine High Constables are using offices equipped and maintained by counties; two are using offices equipped by counties and maintained by us and three High Constables in counties very quiet from a law enforcement standpoint are operating from their homes.

In the Counties of York, Wentworth, Lanark, and Carleton, salaried High Constables are still employed by the county authorities but in one of these the question of adopting the new system is under consideration.

The work of the Acting High Constables and County Constables working under their direction has been supervised by a Staff Inspector from this Headquarters, such supervision being of great benefit.

Many counties have revised their lists of County Constables but there is still room for improvement in this phase of the work.

INDUSTRIAL UNREST AND COMMUNISTIC DISTURBANCES

The unemployed situation shows little, if any, improvement. Strikes have taken place in industrial centres, in relief camps, where work of a public nature was in progress as a relief measure, also in many lumber camps in Northern Ontario.

As most of these strikes occurred in localities where there was inadequate, or no police protection, the resources of this Department were put to an exceptional strain to provide the necessary protection for life and property.

On more than one occasion, whilst the strikes were in progress, the police came into actual physical contact with the strikers and personal injuries were caused to both police and strikers. Fortunately none of the injuries were of a serious nature.

Considering that the police were subject to much verbal abuse and assaults from stones and other missiles, I cannot speak too highly of their conduct under very trying conditions.

Sioux Lookout

In the latter part of November, 1932, a serious situation developed at Sioux Lookout where about two hundred transients, who had been put off trains by the Royal Canadian Mounted Police and Railway Police, congregated on the outskirts of the Town. Endeavours were made to have these men proceed to camps where work would be found on the Trans-Canada Highway, but they refused.

These transients, who were housed, fed, and clothed at the expense of the Government of this Province, openly expressed their intentions of refusing any conditions offered, with the exception of transportation being provided to wherever they wanted to go.

This procedure was a deliberate plan exercised by the agents and delegates of the Industrial Workers of the World, and Workers' Unity League, and culminated in a march *en masse* on the Town of Sioux Lookout. As a result of this disorder, warrants were issued for the arrest of the leaders. Some serious opposition was encountered in making the arrests, one transient swinging a double-bitted axe and injuring three Provincial Constables. Reinforcements of Provincial Constables and Royal Canadian Mounted Police were sent to the scene and eventually all ringleaders, and those who had assaulted the police were taken into custody.

After the leaders had been arrested the trouble subsided and the men were transferred to the various work camps.

At one period the disturbance assumed very serious proportions and it was only due to the steadiness and courage of all ranks of No. 12 District, assisted by the Royal Canadian Mounted Police, that some lives of both malcontents and police were not lost.

Long Branch

Early in September a number of men employed at the Dominion Government Relief Camp, Long Branch, went on strike demanding the prevailing rate of pay for the class of work they were employed at.

Their demands were refused and as a result a general strike of all workers in the camp took place.

The strikers refused to work or leave the camp and the District Officer Commanding Military District No. 2 appealed for police protection.

A detail consisting of Chief Inspector, Staff Inspector, one District Inspector, and twenty-five other ranks, with one Sergeant and twelve Constables from the Toronto Police Force, was sent to reinforce the Royal Canadian Mounted Police who were in charge of the situation. The strike continued until September 23rd when the military authorities paid off all the men and issued orders for the camp to be closed.

When the strikers found that the camp was to be definitely closed they realized they had been duped and would have been satisfied to continue under original conditions.

This camp consisted of about seven hundred unemployed single men who had, in return for a moderate day's work, been supplied with good food, comfortable quarters, and a certain amount of clothing and pocket money, but who, unfortunately, permitted themselves to become dupes of paid agitators.

There was no disorder or damage to property during the time the strike was in progress.

Stratford

On September 15th, 1933, a number of furniture workers at Stratford, Ontario, came out on strike owing to alleged grievances with the factory owners. This strike was also organized by paid agitators and eventually spread until it affected every furniture factory in the City in addition to a cold-storage industry.

Owing to some early disturbances amongst the strikers, and to the fact that the local police were unable to control the situation, the Police Commissioners of Stratford made a request to this Department for assistance.

One Staff Inspector, two Sergeants, and thirty-four Provincial Constables were detailed to reinforce the local police.

The strike continued with considerable bitterness between the workers and factory officials until the first week in November when an amicable agreement was arrived at and all the strikers returned to work.

There were a number of clashes between the police and strikers during the period the strike was in progress and minor personal injuries were caused to both a number of the strikers and the police, but nothing of a serious nature.

RELIEF CAMP PATROLS

The large number of camps operated by the Department of Northern Development in the construction of the Trans-Canada Highway called for special attention during the year. It is expected that the section of the highway west of Fort William will be open for traffic during the summer of 1934. This will necessitate the opening of new detachments along the route.

Thunder Bay District

In this District there are sixteen camps with approximately one hundred and ten men in each camp. A large number of these men are Canadian born. Consequently there has been very little trouble. This section has been patrolled by two Provincial Constables from Nipigon.

Between Fort William and English River there are eighteen camps operating, with an average of one hundred and ten in each camp. There has been more trouble in this section caused principally by the activity of radical agitators who never cease trying to spread their propaganda. This section has been patrolled by Provincial Constables stationed at Raith and Fort William.

Kenora District

There are eight camps operating in this District with approximately one hundred men in each.

In this section a great majority of the men employed are foreign born, Slovaks, Poles, Russians, Ukranians, and Finns having been shipped or beat their way from Winnipeg.

Radical agitators have been very active in this section in an endeavour to cause strikes and stir up general dissatisfaction.

This section has been patrolled by a Provincial Constable from Ignace.

Between Ignace and Dyment eight camps are in operation with approximately one hundred and ten men in each. In this section also the majority of the men are foreign born, and the same trouble has been experienced from radical agitators.

This section is patrolled by a Provincial Constable from Kenora and Ignace.

Between Vermilion Bay and Kenora sixteen camps are in operation with approximately one hundred men in each. In this section everything has been comparatively quiet.

Nipissing District

In this District between North Bay and Mattawa there are nine camps with approximately one hundred men in each camp. These camps have been patrolled by the Provincial Constables from North Bay and Mattawa. Conditions in these camps have been exceptionally good, they having been free from trouble of any kind.

Air Base Relief Camps

Between Nakina and Quibell there are nine camps operating under the Dominion authorities in connection with the marginally named subject, with approximately one hundred men in each camp.

The same conditions exist here as in the Trans-Canada camps, but to a lesser degree, very little trouble has been reported.

These camps have been patrolled by Provincial Constables from Nakina, Sioux Lookout and Dryden.

The Lac Seul Project

There are fifteen camps being operated by the Department of National Defence in connection with the marginally named project, each camp being occupied by one hundred and twenty-five men. These men were recruited in

Winnipeg, a great number of them are foreign, and there has been trouble here with Communist agitators.

These camps are patrolled by the detachment from Hudson and as new camps are opened up it will be found necessary to increase the number of Provincial Constables on this patrol.

A close check has been kept on the camps to keep out agitators, bootleggers, etc. On the whole the influence of those intent on spreading Communism has been felt to some degree, especially amongst the foreign born, but in most instances it was found that when the leader of men who had caused a disturbance or refused to work was removed, the remainder would return to work.

There has been excellent co-operation between the members of this Force, the District Engineers and camp officials, and the fact that no really serious trouble has occurred is a tribute to both the police and the officials of the different projects.

It speaks volumes for the law-abiding spirit of the occupants of these camps when it is realized that not one major crime was reported from any camp during the year.

CRIMINAL INVESTIGATION BRANCH

This branch has had an exceptionally busy year and much excellent work has been done. The Inspectors have been continuously engaged on investigations into the more serious crimes including murder, arson, rape, robbery with violence, etc., and with few exceptions these crimes have all been satisfactorily cleared up. Many important inter-departmental investigations have been made. These include enquiries for the Provincial Treasurer's Department, the Provincial Secretary's Department, the Department of Education, and especially the Department of Public Welfare regarding abuses arising from the administration of relief.

A number of prisoners wanted for various crimes in this Province were brought back from points in the United States by Inspectors of the Criminal Investigation Branch under warrants of extradition.

During the racing season, officers were present at all the tracks in the Province during the time racing was being carried on, and were responsible for the prosecution of a number of "bookmakers" and other undesirable race track frequenters.

The Criminal Investigation Branch has worked in the closest co-operation with the officials of the Ontario Securities Commission and many important assignments have been handled with good results.

ATTEMPTED EXTORTION BY THREATS

James and Leonard Franceschini, Mimico

During the month of December, 1932, a series of theatening letters were received by James and Leonard Franceschini, prominent business men residing at Mimico.

The letters were written in the Italian language, skilfully worded and typed, demanding that $80,000 be sent by the Franceschini brothers to an address in Hamilton.

Investigations made at a street number in Hamilton by Inspectors of the Criminal Investigation Branch, assisted by an Italian police officer loaned by the City of Toronto, disclosed that Torossi had a room there and that at the time the letters were received by the Franceschini brothers Torossi also claimed to have received letters directing that he receive $80,000 from the Franceschini brothers to be distributed as directed. All the letters, purporting to be from an Italian Secret Society, contained threats and menaces to life.

Torossi eventually admitted that he was the author of the whole plot and that he had drafted the contents of the letters, had then forwarded the drafts to his sister in Italy who typed them and sent them back to him in Hamilton, from which point the letters were mailed by Torossi to the Franceschini brothers at Mimico.

Investigations further disclosed that Torossi had lived in Detroit, Michigan, during the years 1926, 1927, and 1930, and had boasted how easy it was to make a living without working.

Torossi was born in Italy in May, 1898, and came to the United States in 1923 and lived in Hamilton and Windsor and various places in the United States until 1928, in which year he obtained Canadian naturalization certificate by making a false declaration at Sandwich, Ontario.

Torossi was charged under Section 451 of the Criminal Code and pleaded guilty before Magistrate Burbidge at Hamilton and sentenced to six years in Kingston Penitentiary.

G. W. Ecclestone, Bracebridge

On June 17th, 1933, G. W. Ecclestone, Esq., of Bracebridge, received a letter through the mail purporting to have been sent by a Blackhand Society, demanding $5,000 in cash be placed at a certain location, or suffer death. Provincial Constable L. S. Hardwick, within a few days after the case was reported to him, placed a seventeen-year-old boy named Mervin MacDonald, of Draper Township, under arrest after he confessed to the crime, and on June 30th, 1933, the prisoner came before District Judge A. Mahaffy at Bracebridge and received a sentence of two years less a day, Ontario Reformatory.

Mrs. Cleveland Dodge, Wild Goose Island

On July 11th, 1933, Mrs. Cleveland Dodge, wife of a New York man, resident at their summer home on an island located on the St. Lawrence River, Leeds County, was the recipient of a threatening letter through the mail demanding $1,000 be deposited on an adjacent island. The document had been posted the previous day at Waterdown, N.Y. The United States authorities were communicated with and they in turn notified the Provincial Police Headquarters at Ottawa. A Criminal Investigation Branch Inspector was assigned and in due course one Gordon J. Dignem, aged nineteen, a resident of Wolfe Island, was suspected, and on August 5th, 1933, he was arrested in Clayton, N.Y., by New York State Troopers on a warrant charging attempted extortion. Dignem confessed to writing the threatening letter and was held in custody as the offence was perpetrated in the United States of America. The accused was therefore tried within this jurisdiction. On October 28th, 1933, the accused was tried, found guilty, and sentenced to the Elmira Reformatory for an indefinite period.

BANK ROBBERIES

The majority of the bank robberies here recorded were the work of a gang led by an American crook who was known here as John Carson, but who operated under numerous aliases as his finger-print record, which is herewith appended, shows:

May 13th, 1912—Eau Claire County, Wis., U.S.A., convicted of burglary, 3 years, as Wm. Ridley.
November 8th, 1915—Ottawa, Ontario, shopbreaking, 4 years, St. Vincent de Paul Penitentiary, as James Murrey.
February 13th, 1920—Toledo, Ohio, convicted as Geo. Woods.
April 21st, 1925—Decature, Ill., no disposition, as Thomas Mullins.
May 7th, 1926—Madison, Wis., shopbreaking and theft from U.S. Post Office, 9 years, 9 months, Leavenworth Penitentiary, Kansas, as Wm. Ridley.

Every member of his gang is now either serving a sentence or awaiting trial, and some exceptionally good work was done by the Criminal Investigation Branch in bringing those guilty to justice.

Bank of Montreal, Thorndale

On November 10th, 1932, Silvester J. Pocock, aged 41 years, married, resident of St. Marys, about 1 p.m., held up the bank staff and a customer at the point of a revolver and escaped with $725 of the bank's funds in an automobile. The Bank Manager, customer and Village residents armed themselves and took up the chase. The bandit's automobile stalled, forcing him to flee on foot, seeing capture evident he stopped and shot himself with the revolver he still carried. By the time the posse arrived at the scene, life was extinct. The body was later identified and turned over to relatives for burial. These citizens are to be commended for their promptness and courage.

Royal Bank, Mountain Top, Hamilton

On November 22nd, 1932, the Royal Bank, known as Mountain Top Branch, Hamilton, was held up by two young men armed with a revolver and a shotgun. The bandits forced the two bank employees present to go into the vault. About $2,500 in bank funds were stolen and the bandits escaped in a stolen Hamilton automobile. Our District Headquarter's Staff, Hamilton, and the Criminal Investigation Branch, General Headquarters, co-operating with the Hamilton police authorities, discovered the identity of the culprits, and in March, 1933, David Oberman was arrested in New York State and later extradited and turned over to the Hamilton police.

Stanley Lawrence was arrested later in Windsor and returned to Hamilton, and on March 31st, 1933, he was arraigned before Police Magistrate Burbidge charged with Section 446 of the Criminal Code. He pleaded guilty and elected summary trial. He was convicted and sentenced to serve seven years in the pentitentiary. The other bandit, named Marion (Cal) Fauria, was traced and arrested in Jacksonville, Florida, and was extradited and returned to Ontario by Criminal Investigation Branch and Toronto police. On October 4th, 1933, he was tried for this offence, was convicted and sentenced to seven years' imprisonment with fifteen lashes.

Bank of Commerce, Flesherton

On November 23rd, 1932, the Canadian Bank of Commerce Branch at Flesherton was held up by two armed, masked men, who escaped with $6,356 in bank funds in an automobile. An investigation led to the arrest of John O'Brien and John M. Burlie, both of Toronto, after their photographs were identified by three of the bank staff. On November 28th, 1932, the prisoners were charged under Section 446 of the Criminal Code at Owen Sound and arraigned before Magistrate Spereman on December 3rd, 1932, and they were remanded until the 17th of December. Before this remand elapsed the prisoners were conveyed into the City of Toronto jurisdiction on a nominal charge, and on January 4th, 1933, they appeared before a Toronto Magistrate, elected summary trial and entered a plea of not guilty. After the evidence was heard the Crown withdrew all charges owing to a most convincing alibi being established.

Bank of Commerce, Markham

On January 31st, 1933, two armed men held up the staff of the above-named bank and a customer, who entered whilst the robbery was in progress, and escaped in an automobile with some $2,864 in bank funds. An Inspector of the Criminal Investigation Branch was assigned to the investigation. The following day a stolen Toronto automobile was found abandoned in Aurora. On February 4th, 1933, the Toronto Detective Department received information concerning the suspicious actions of an occupant in an apartment house on Thomas Street, Toronto. A visit from this Department revealed a man named Frank West, aged 36, was the occupant. A search discovered a parcel containing $1,055 in bank bills, also a nickel-plated .38 calibre revolver which was later identified as the property of the Markham Bank. Frank West was charged with robbery whilst armed and after he was formally arraigned before Police Magistrate Keith he admitted that he was one of the hold-up men and that the money recovered was stolen funds from the bank; that Elroy Hunt was the other man who was wanted for this job. A warrant was obtained for Elroy Hunt's arrest, and on February 10th, 1933, his description was circularized. Information received by the Criminal Investigation Branch led to the arrest by the Chicago, Illinois, Detective Department, of Hunt, on February 17th, 1933, and he was conveyed back to Canadian jurisdiction. On March 7th, 1933, Frank West was convicted and sentenced to serve five years in prison. Elroy Hunt, on March 13th, 1933, was convicted and sentenced to a similar term. These results were brought about by the splendid co-operation of the different police departments and officers mentioned, and denotes the efficiency of modern police methods of to-day.

Bank of Commerce, Ilderton

On March 29th, 1933, the staff of the Canadian Bank of Commerce Branch at Ilderton was held up by two armed men who seriously wounded the Manager and injured his assistant by shooting them. Several shots were exchanged between the bandits and the bank staff. The bandits were described as in their early twenties, and the automobile, which they used to escape in, was stolen from London that morning and found abandoned the following day. An Inspector of the Criminal Investigation Branch was assigned and carried out an exhaustive investigation but to date the two guilty men are still at large. The bandits were not successful in getting possession of any of the bank's funds, no doubt due to the able and courageous defence put up by the bank staff.

Bank of Montreal, Bronte

On April 21st, 1933, the Bank of Montreal Branch staff at Bronte was held up by two bandits armed with sawed-off shotguns and forced into the bank vault, where they were held by one of the bandits whilst the other took possession of all available cash amounting to about $1,600, also a .32 calibre revolver, the property of the bank, and escaped in an automobile which had been left parked with a third man at the wheel. The officers of No. 3 District Headquarters, Hamilton, were quickly on the scene, assisted by Inspectors of the Criminal Investigation Branch. An abandoned automobile was found in a bush near Clarkson, also two sawed-off shotguns were recovered from a creek in this immediate vicinity. It was later verified the auto and guns had been used in the hold up. On August 2nd, 1933, members of this Force arrested Harold Cunningham and William Barlow for violations of The Liquor Control Act and theft of auto (one used in bank hold up). The Crown was unable to prove identification and the Court dismissed the charge. John Carson was later arrested by the Toronto and Provincial Police on a vagrancy charge. In a line up this man was identified by some Bronte residents as one of the bandits. Harold Cunningham was again arrested in Toronto and charged with armed robbery. The identification by the bank staff and others was complete. He was also definitely identified by witnesses with the hold up of the Canadian Bank of Commerce, Westdale, and is committed for trial on this charge. Action is pending against Carson and Cunningham regarding the Bronte case.

Royal Bank, Mimico

On June 16th, 1933, two armed men held up the Royal Bank of Canada Branch at Mimico, forcing the bank staff present and two customers into the vault, escaping with about $3,500 of the bank's funds in an automobile driven by a confederate. An Inspector of the Criminal Investigation Branch was assigned to the investigation and has met with considerable success, Edward Wells and John Carson being both positively identified as taking part in the robbery. Action is pending.

Bank of Commerce, Westdale

On August 2nd, 1933, the Westdale Branch staff of the Canadian Bank of Commerce, City of Hamilton, was held up by two men armed with revolvers and a third armed with a sawed-off shotgun, a fourth man remained at the wheel of an automobile outside. The sum of $2,000 in bank funds was stolen from the Teller's cage and the bandits escaped in their automobile towards Toronto. No. 3 District Headquarters, Hamilton, assisted the Hamilton City Police in a preliminary enquiry, later an Inspector of the Criminal Investigation Branch was assigned and Harold Cunningham and John Carson were arrested and charged with this crime and are now awaiting trial. The other two men, Edward Wells and Willis Pelly, were convicted and sentenced to five years with lashes.

Royal Bank, Orangeville

On August 29th, 1933, the Orangeville Royal Bank staff were held up by two young men armed with a double-barrelled shotgun and a revolver, forced the bank staff into the vault and escaped with about $3,480 of the bank's funds in a stolen automobile, driving south on No. 10 Highway. Inspectors of the Criminal Investigation Branch were despatched to the scene and a thorough investigation was commenced. The stolen automobile used by the bandits was found abandoned. Later Edward Wells, Willis Pelly and Harold Cunningham were arrested. Action pending.

Imperial Bank, Preston

On October 4th, 1933, the Imperial Bank Branch staff at Preston was held up by two young men who were armed, and over $2,037 in bank funds stolen. A third confederate remained outside in a stolen Toronto automobile. After the hold up the trio of robbers entered their car and drove away towards Hespeler. A few hours after this crime Edward Wells and Willis Pelly were arrested in an apartment in Toronto by an Inspector of the Criminal Investigation Branch accompanied by officers from the Toronto Detective Department and the stolen funds were found in the possession of the two men. On October 24th, 1933, the prisoners appeared before His Honour Judge Clement in County Judge's Criminal Court and elected trial before this Court and pleaded not guilty. Both were found guilty and sentenced, Pelly to five years and Edward Wells to ten years in Kingston Penitentiary. The cleaning up of this case can be credited to the splendid co-operation of the different police bodies taking part.

Bank of Commerce, Wellington

On October 11th, 1933, the Canadian Bank of Commerce Branch at Wellington was entered by two young men armed with sawed-off shotguns and the Teller was assaulted and tied up and forced to remain in the cellar of the bank building. The Bank Manager, on his arrival at the bank, was threatened by one of the bandits, and when he showed fight, instead of complying with the bandits demands to open the vault, he was viciously assaulted, receiving injuries to his head from the weapon in the hands of the thug. However, the resistance of the Manager so upset the bandits that they ran from the bank, escaping in their parked automobile which had been stolen by them in Toronto the day previous. The police, assisted by local residents, located the abandoned automobile some ten miles distant in a farmer's woods. A few hours later the two culprits were discovered some two miles distant from the recovered automobile and placed under arrest. On October 12th, 1933, the two prisoners, named Percy Garret, of Calgary, Alberta, and Miles Pettit, of Toronto, stood trial before Police Magistrate Calnan, Picton Court, and were convicted on four different relative counts. Both were convicted and sentenced to serve five years, plus two years for carrying offensive weapons.

Supreme Canners, Grimsby

On October 10th, 1933, two men took part in the hold up of Leslie Hill, bookkeeper, and Louis Game, chauffeur, on a street in Grimsby after they had received the pay roll, some $4,373.43, from the Canadian Bank of Commerce on Main Street, Grimsby, and where, en route to the firm's office, one man armed with a revolver threatened the two custodians to hand over the cash or he would kill. The money was handed over at the demand and the thug jumped into his waiting automobile and with his confederate escaped, driving east on No. 8 Highway. The automobile used by the culprits was later found abandoned, traced and found to be a stolen automobile from Hamilton. Provincial Constables from St. Catharines detachment assisted the Chief Constable of Grimsby. This case is still unsolved but the investigation is proceeding.

Frank Cox and John Jones, extradited from Scotland

In the year 1932 a number of places of business were broken into in the Town of Merriton and a quantity of valuable goods stolen therefrom.

Investigation was made by the St. Catharines detachment assisted by an Inspector of the Criminal Investigation Branch and suspicion fell upon Frank Cox, an ex-Constable of St. Catharines and Merriton Police Forces, and his brother-in-law, John Jones, who lived with him.

Mrs. Cox returned to Scotland in September, 1932, and the two men kept house at St. Catharines. Jones was later deported to Scotland at his own request, and Cox later took passage for Scotland.

The investigation produced sufficient evidence to warrant their arrest and an application was made for their extradition from Scotland on charges of breaking, entering, and committing an indictable offence by night.

The application for extradition was successful and they were returned to Canada. On June 17th, 1933, an Inspector of the Criminal Investigation Branch and Provincial Constable from St. Catharines met the steamer at Halifax and escorted them to St. Catharines for trial.

On July 12th, 1933, both prisoners appeared before Police Magistrate Campbell at St. Catharines, pleaded guilty and were sentenced on the following charges:

Frank Leslie Cox:

No. 1—Breaking, entering and theft, from store, Merritton, Section 460, Criminal Code, eight years' imprisonment.

No. 2—Breaking, entering and theft, drug store, Merritton, Section 460, Criminal Code, eight years' imprisonment.

No. 3—Breaking, entering and theft, office of Shawinigan Chemicals Ltd., Merritton, eight years' imprisonment.

No. 4—Breaking, entering and theft, office of Hill and Sibbald, Ltd., Merritton, charge amended to theft, Section 386, Criminal Code, five years' imprisonment.

No. 5—Breaking, entering and theft, residence in Grantham Township, Section 459, Criminal Code, six years' imprisonment.

No. 6—Breaking, entering and theft, residence in St. Catharines, Section 459, Criminal Code, six years' imprisonment.
Sentences to run concurrently.

John Jones:

No. 1—Breaking, entering and theft, store, Merritton, Section 460, Criminal Code, five years' imprisonment.

No. 2—Breaking, entering and theft, office of Shawinigan Chemicals Co., Ltd., Merritton, Section 460, Criminal Code, five years' imprisonment.

No. 3—Breaking, entering and theft, drug store, Merritton, Section 460, Criminal Code, five years' imprisonment.

No. 4—Breaking, entering and theft, residence in Grantham Township, Section 459, Criminal Code, five years' imprisonment.
Sentences to run concurrently.

The Crown Attorney, addressing the Court, stated that there was no excuse for Cox, who, in the guise of an officer on police duty, entered places of business in the dead of night.

MURDERS

Harry Roth, Hamilton

On November 10th, 1932, information was received by our St. Catharines detachment to the effect that Harry Roth, 122 Jackson Street East, Hamilton, Ontario, was missing from his home.

Enquiries and investigations were at once conducted by members of this Force and a Criminal Investigation Branch Inspector was assigned to the case, with the result that the motor car in which Roth was travelling was found abandoned in a field near Burgoyne Woods, just off the Merrittville Highway, but no trace could be found of the missing man.

Roth was employed as a jewelry salesman and collection agent for the Franco-American Supply Company, Hamilton, and was considered by his employers to be a trustworthy man. His friends feared that owing to the fact he often carried large sums of money and jewelry he may have met with foul play.

On February 10th, 1932, about noon, a boy named Jack Poehlman, whilst skating on Lake Gibson, Grantham Township, discovered a body frozen in the ice. On examination it was found a sack had been placed over the head and tied around the neck, there was a cord on the right wrist and a rope on the left ankle, a piece of web strapping around his chest and considerable blood in the sack.

The body was identified by relatives as that of the missing man, Harry Roth. An autopsy was performed but no marks were found on the body. On March 23rd, 1933, a Coroner's jury returned a verdict that Harry Roth came to his death from strangulation caused by some person or persons unknown.

Endless clues and information have been investigated in this case but without a satisfactory conclusion and the mysterious and unfortunate death remains an open file awaiting further developments.

Peter Davis, Kingston

On December 18th, 1932, Peter Davis, caretaker at R.C.A. Barracks, Kingston, was mortally injured by Albert G. Hendrie when he attempted to prevent theft of money from the Canteen funds. The assailant used an iron pipe to beat the custodian into submission and later caused his death.

Provincial Constables Clubbe and Blucher, accompanied by Sergeant Lee, Smith's Falls Police, traced the murderer to a hotel in Smith's Falls where he was a registered guest. Thirty-six dollars and fifty cents was found in his possession, which Hendrie later admitted was part of the $61.55 he had stolen. The accused was charged with murder and tried by Judge and jury. The jury, after deliberation, brought in a verdict of manslaughter and the accused was sentenced to life imprisonment.

Tony Piromelli and Frank Vena, Sault Ste. Marie

On January 6th, 1933, Tony Piromelli was shot and fatally wounded by a revolver bullet fired by Frank Vena when an altercation arose between these two men over the proceeds from a pool game. On the following date Frank Vena surrendered to the police authorities. Vena was then charged with his countryman's murder. The following April the accused man was tried by Judge and jury and the jury returned a verdict of not guilty. Within the following week Vena was shot and killed by a bullet fired from a revolver in the hands of Frank Piromelli, brother of Tony Piromelli, the dead man who Frank Vena was alleged to have killed. Provincial Constable G. B. Carmichael located and arrested the wanted man in the Italian section of the city on the date of the murder. In the month of October the accused man stood trial before Judge and jury. The jury, after lengthy deliberation, rendered a verdict of manslaughter. The prisoner was then sentenced to fifteen years in Portsmouth Penitentiary.

Mrs. Annie Munduk and Mrs. Frances Banashuik, Kirkland Lake

On January 9th, 1933, the above-named women were shot and killed by one William Antonowicz, a Pole, who also wounded William Munduk, husband of one of the murdered women, also Fred Cunningham, an acquaintance. These crimes were committed from jealousy causes. Mrs. Munduk, previous to her marriage, had been a sweetheart of Antonowicz. The assailant, after committing these crimes, escaped into the surrounding bush but through privations was forced to return to the settlement where he was recognized and apprehended while still in possession of the loaded revolver. The accused man was charged with committing the two murders, aso two charges of attempted murder were laid in April, 1933. Antonowicz was tried before Judge and jury, resulting in a verdict of guilty of murder, and he was executed on April 11th, 1933.

Frederick McLaren, Cavan Township, Durham County

On February 4th, 1933, the body of Frederick McLaren, aged 52 years, a bachelor, Canadian, and labourer, was found frozen stiff in a farm house where he had been residing alone. Evidence pointed to a robbery motive and the autopsy disclosed death caused by a fractured skull, which had occurred, according to medical testimony, some three or four days previous to the discovery of the crime. The authorities ascertained the deceased had drawn $50.00 from a local bank a short time before his murder, also that a foreigner had stayed with McLaren about this time. From descriptions obtained the police traced the identity to one George Laurila, a Finnish labourer, who later was recognized by two resident farmers in Peterborough County. Apprehension followed and the police collected a strong chain of circumstantial evidence, resulting in the accused being placed on trial for murder. The prisoner stood trial before Judge and jury, but owing to a lack of direct evidence the jury rendered a verdict of not guilty. The trial Judge, when discharging the prisoner, directed the accused should be held in custody pending the outcome of his recommendation that Laurila be deported to his native country.

Colin H. Affleck, Kenora

On February 23rd, 1933, Colin H. Affleck was shot in the body with a revolver bullet fired by A. W. Robinson, a night-watchman employed in the Liquor Control Board's Store at Kenora. The wound later proved fatal. James W. Hogg, a companion clerk in the store with Affleck, was also wounded, but not in a vital portion of the body. Robinson immediately afterwards surrendered to the police and was held in custody and charged with wounding with intent. After Affleck succumbed to his wound a charge of murder was laid. The accused man was committed for trial and appeared before Judge and jury. After evidence for the Crown and defence was introduced, the jury brought in a verdict of not guilty as the weight of evidence proved that the accused man was of unsound mind when he committed the crimes. The unfortunate man was then committed to an institution for the insane.

William Baker, Napanee

On April 18th, 1933, William Baker, a middle-aged married man, labourer, resident of Napanee, was found on the street in this municipality in an injured and unconscious condition. He was removed to Kingston Hospital where he died on the 7th of the following month, never having regained consciousness. An inquest and autopsy was held and it was found that death resulted from a head injury either caused by the deceased having been struck on the skull by a blunt instrument or through falling on the pavement. It was shown that the deceased man, with other boon companions, had been intoxicated on the evening in question and when in this condition was garrulous. A thorough investigation was conducted by the local and Provincial Police but no evidence was unearthed justifying any person or persons being charged with injuring this man. However, several perjury charges were laid by Provincial Constable J. Kelly against some of the persons who gave evidence at the inquest. These charges were sustained and convictions registered.

Leo Trilsbeck, Inmate, Burwash Industrial Farm

On the afternoon of May 30th, 1933, Leo Trilsbeck, a prisoner serving a sentence in this institution, was stabbed in the abdomen with a knife picked up from the kitchen utensils by Joseph Isidore Belanger, another prisoner employed in the kitchen and serving an 18-month term for theft. An altercation arose in the building between these two prisoners over food, and in the presence of a Guard. Whilst this official's attention was directed in another quarter, Belanger took advantage to plunge the knife into Trilsbeck. The subsequent investigation shows that the deceased man was not the aggressor. The wounded man was rushed to the hospital where an examination showed that penetration was deep and an operation necessary, which was performed, but the patient died from the injury and shock.

The assailant was placed in custody by the prison authorities and later turned over to the Provincial Police and formally charged with murder. At the Fall Assizes Court the prisoner stood his trial before Judge and jury. The latter brought in a not guilty verdict but found him guilty of manslaughter. He was sentenced to eight years' imprisonment.

Mrs. Jessie Nehrebeski, Sandwich Township East, Essex County

On August 1st, 1933, the above woman was criminally assaulted by her common-law husband, known as Peter Melvin Beyak, with a butcher's cleaver at their joint place of business, during an altercation over division of moneys and other personal reasons. The injured woman was removed to the hospital but died without regaining consciousness. The assailant was located and placed in custody by Provincial Constable F. C. Thurston and charged with murder. On September 20th, 1933, he was tried before Judge and jury who returned a verdict of guilty and the prisoner was duly executed.

Harvey Barnes, Floss Township, Simcoe County

On August 8th, 1933, Harvey Barnes, a returned soldier, aged 42 years, an agriculturalist, was shot with a shotgun by Mrs. Rose Cadeau, who owned the farm Barnes occupied along with his family. Some days previous to the wounding Mrs. Cadeau accused Harvey Barnes with the theft of an account book, finger ring, etc. Whether the accusation was justified is aside from the issue. It is evident this woman premeditated her action. When Provincial Constable W. H. Clark arrived at the scene he had the injured man removed to the hospital. Mrs. Cadeau had departed before the arrival of the police but was later located and taken into custody the same date at Elmvale on a charge of attempted murder. The injured man died within a few hours. A charge of murder was then preferred and the assailant was held pending trial. On November 1st, 1933, Mrs. Cadeau was tried before Judge and jury, the latter returning a verdict of not guilty of murder but guilty of manslaughter. The Judge then sentenced the prisoner to three years' imprisonment.

Mrs. Katherine M. McGillivray, Underwood Township, Bruce County

On September 9th, 1933, Mrs. Katherine M. McGillivray was shot in the breast with a .32 calibre bullet fired from a revolver in the hands of her estranged husband, Eric McGillivray, aged 40 years, a Canadian, who had followed his wife to a dance hall at Inverhuron Beach, where he requested her to dance with him. As he was in an intoxicated condition, she refused. This precipitated a scene between them, terminating in the woman retiring to her home, adjacent to the Beach, where her husband, who was waiting for her on the verandah, shot her with a revolver and then escaped into the surrounding bush. The injured woman was rushed by motor car to a physician at Tiverton, but died before arrival. Provincial Constable O. McClevis, Walkerton detachment, was advised, and in searching the surroundings discovered the body of McGillivray lying face downward in a sand hole at the rear of the cottage, with the revolver still in his hand. Examination disclosed that McGillivray had committed suicide by shooting himself through the mouth, the bullet emerging from the base of the skull.

DEATHS FROM VIOLENCE AND UNNATURAL CAUSES

The following number of deaths from violence and other unnatural causes were reported to and investigated by members of this Force during the year:

	1933	1932
Murder	11	17
Manslaughter	24	26
Suicide	98	99
Automobile fatalities	127	155
Drowning	201	201
Other causes, i.e., shooting, burns, etc.	193	223
Total	654	721

In comparison with the preceding year, there is a decrease of sixty-seven in the above reported fatalities over the same period 1931-32.

Auto fatalities, however, decreased from 155 to 127.

The investigations and assistance rendered in these cases cause a great deal of extra work for the members of the Force, all of which is very necessary so that the full facts can be laid before the Coroner and Crown Attorney.

LIQUOR CONTROL ACT

There has been a very noticeable decrease in offences prosecuted by members of the Force under the provisions of The Liquor Control Act.

Prosecutions for all offences totalled 2,996, a decrease of 1,278 over the same period last year. This decrease can be chiefly ascribed to continual good observance of the law and the financial stringency.

The following table gives the prosecutions, convictions, dismissals, etc., also the fines imposed for violation of various sections of the Act during the year 1932-33:

	Prosecutions	Convictions	Dismissals	Withdrawn	Committed	Awaiting Disposal	Fines Collected
Doctors giving Illegal Prescriptions	....	....	....	....	....	....	....
Drinking in Public Place	696	654	27	15	65	....	$7,818 25
Drunk in Public Place	662	610	36	16	186	....	4,683 00
Having or Consuming in Hotel	7	7	....	....	....	....	950 00
Having Without Permit	468	365	63	40	135	....	26,235 00
Illegal Use of Permit	13	12	1	....	1	....	120 00
Infractions Liquor Control Board Regulations	26	20	....	6	3	....	290 00
In Possession of Liquor without Board's Seal	60	60	....	....	5	....	855 00
Keeping in Unlawful Place	368	286	55	27	83	....	21,620 00
Miscellaneous Offences	63	43	4	16	24	....	1,150 00
Permitting Drunkenness in Private Residence	54	47	4	3	5	....	770 00
Sale or Keeping for Sale	258	171	57	30	167	....	5,000 00
Supplying Liquor after Permit Suspended	....	....	....	....	....	....	....
Supplying Liquor to Minors	31	20	10	1	11	....	200 00
Unlawful Possession	260	211	30	19	107	....	13,313 00
Unlawful Purchase	30	27	1	2	10	....	495 00
Violation Section 54 by Druggists	....	....	....	....	....	....	....
Total	2,996	2,533	288	175	802	....	$83,499 25

COMPARATIVE STATEMENT OF PROSECUTIONS UNDER THE LIQUOR CONTROL ACT

	1933	1932	1931
Prosecutions	2,996	4,274	5,823
Convictions	2,533	3,609	4,973
Dismissals	288	409	542
Withdrawals	175	256	308
Commitments	802	1,021	1,186
Fines Collected	$83,499 25	$120,752 00	$200,073 00
Confiscated Cars and Trucks	4,394 50	10,596 50	44,000 00
Confiscated Liquor	10,000 00	20,000 00	50,000 00

DECREASE FOR YEAR 1932-33

Prosecutions	1,278
Convictions	1,076
Dismissals	121
Withdrawals	81
Commitments	219
Fines Imposed	$37,252 75
Confiscated Liquor	10,000 00
Confiscated Cars and Trucks	6,202 00

There were 1,057 liquor permits seized and sent forward with a recommendation that they be cancelled. In each case where it was considered that the report of the officer justified the cancellation of the permit in question the permit was forwarded to the Liquor Control Board, recommending such cancellation. This was a decrease of 428 over the same period in 1931-32.

There were 617 samples of liquor forwarded to this office for analysis from various Police Departments throughout the Province, a decrease of 566 over the same period in 1931-32. This is quite an important matter in connection with the enforcement of the Act as the certificate of the analyst is used as conclusive evidence in the various police courts as to the strength of the liquor seized.

The Motorcycle Patrol on the King's Highways has accomplished much good work in connection with the enforcement of The Liquor Control Act. During the past year they were responsible for 307 prosecutions, the seizure and confiscation of 269 bottles of liquor and assorted wines, 45 gallons alcohol, and 2,546 bottles of beer, also seizing 2 automobiles and 1 truck which were being used in the transportation of the above liquor.

Approximately 600 gallons of alcohol were seized. Principally in Northern and Western Ontario, and from investigations of such seizures, it has been found that practically all is American alcohol, which finds its way into this Province from the United States. Exemplary penalties have been imposed in the majority of cases to persons being found in possession of alcohol and quite frequently prosecutions have been instituted under The Excise Act as well as The Liquor Control Act. The amount of alcohol seized during the past year shows a marked decrease compared with that seized during the previous year.

Privileges of making home-brew beer for personal and family use are granted under the provisions of The Excise Act. There is no limit to the quantity a person can brew, which makes it very difficult to place any check on a traffic which has been continually growing since the inception of The Ontario Temperance Act.

To show the extent to which this practice is common throughout the Province, I find that up until December 26th, 1933, the privilege of brewing beer has been granted to 179,475 persons.

MOTORCYCLE PATROL

In connection with the work of the Motorcycle Patrol, I am pleased to report that there has been a reduced number of accidents as well as a reduced number of complaints laid. The practice has been to refrain from laying a complaint unless absolutely necessary, always keeping in mind the duty of guarding the public interest, and this attitude appears to have met with general approval.

From reports received it would appear that there is a greater tendency towards excessive speed, there being a number of convictions registered in cases where the speed of the automobile has been in excess of seventy, eighty, and even as high as ninety miles per hour. Driving at this speed, is, of course, exceptionally dangerous and it is usually dealt with by the imposition of an exemplary penalty.

The opening of new sections of the King's Highways necessitated new patrols rendering it difficult to maintain adequate patrols on the highways over which the heaviest traffic passed, and I regret to report that some of the night patrols that were put into force on the main highways have had to be abandoned owing to a shortage of men.

In enforcing the overloading provisions of The Highway Traffic Act, fourteen scales were manned by the members of the Motorcycle Patrol for a period of two months, the scales being operated in eight-hour shifts over the twenty-four hours. Twelve hundred and eleven complaints were laid under this section.

Attention is again directed to the number of warnings given persons operating motor vehicles, which total 46,313. Of this large number 22,106 came under Section 9 of The Highway Traffic Act (insufficient lights), whilst 24,207 warnings were given and recorded for general minor violations of the Act.

I cannot speak too highly of the good work done by the Department of Highways, Safety Organizations, and public-spirited citizens, who have through the newspaper, radio channels, service clubs, etc., stressed the continued and unwarranted number of fatalities and injuries to persons through the operation of motor vehicles on the highways. This educational campaign is reflected in the decreased number of accidents, fatal and otherwise, reported during the year.

Appended hereunder is a return giving the particulars as to prosecutions, penalties, etc., resulting from the work of the Motorcycle Patrol during the year:

MILEAGE OF KING'S HIGHWAYS PATROLLED

King's Highways as of October 31, 1933	3,415
Number of Details	80
Approximate mileage assigned to detail units	42.3

PROSECUTIONS

Under Highway Traffic Act	9,183	Fines	$65,604.80
" Liquor Control Act	307	"	6,509.50
" Criminal Code	194	"	836.00
Miscellaneous Acts	84	"	427.00
Total Prosecutions	9,768	Total	73,377 30

Licenses suspended—212.
Warnings given and recorded—46,313.
Two passenger cars and one truck were confiscated under The Liquor Control Act.
Ninety-three stolen cars were recovered and returned to owners.

ACCIDENTS

Non-fatal on Highways proper, total	2,233
Fatal on Highways proper, total	115
Non-fatal at Railway Crossings, total	11
Fatal at Railway Crossings, total	9
Number of persons killed	135

MILES TRAVELLED ON DUTY

Miles travelled by Motorcycle Patrol	1,643,761
Miles travelled by car	8,601
Total	1,652,362

VOLUNTARY SECURITY PLAN

Number of cases in which form was used	518
Amount accepted under plan	$6,660.90

ESCORTS

Miles travelled on actual Escort Duty	7,582
Miles travelled account Escort Duty	16,882
Total mileage	24,464

STATISTICAL RETURNS

Return of prosecutions, convictions, dismissals, withdrawals, etc., by Districts for offences under The Liquor Control Act, covering the period November 1st, 1932, to October 31st, 1933:

	Prosecutions	Convictions	Dismissed	Withdrawn	Awaiting Trial
No. 1 District Headquarters Windsor.........	171	122	29	20	....
No. 2 " " London.........	318	293	18	7	....
No. 3 " " Hamilton........	184	152	18	14	....
No. 4 " " Niagara Falls....	154	110	35	9	....
No. 5 " " Toronto.........	288	185	40	63	....
No. 6 " " Kitchener.......	310	272	30	8	....
No. 7 " " Barrie...........	182	167	8	7	....
No. 8 " " Belleville........	363	333	24	6	....
No. 9 " " Ottawa..........	414	359	30	25	....
No. 10 " " Haileybury......	260	224	30	6	....
No. 11 " " Sudbury.........	160	146	12	2	....
No. 12 " " Port Arthur......	192	170	14	8	....
Total...............................	2,996	2,533	288	175	....

Total fines imposed in connection with above prosecutions, $129,420.75.

Return of prosecutions, convictions, dismissals, etc. (exclusive of offences against the Liquor Control Act) by Provincial Police Districts, covering the period, November 1st, 1932, to October 31st, 1933:

	Prosecutions	Convictions	Dismissed	Withdrawn	Awaiting Trial
No. 1 District Headquarters Windsor.........	224	155	19	50	....
No. 2 " " London.........	802	670	106	26	....
No. 3 " " Hamilton........	204	162	30	12	....
No. 4 " " Niagara Falls....	478	390	74	14	....
No. 5 " " Toronto.........	266	215	41	10	....
No. 6 " " Kitchener.......	616	526	66	24	....
No. 7 " " Barrie...........	608	509	75	24	....
No. 8 " " Belleville........	728	589	101	38	....
No. 9 " " Ottawa..........	823	666	105	52	....
No. 10 " " Haileybury......	750	567	138	45	....
No. 11 " " Sudbury.........	695	568	94	33	....
No. 12 " " Port Arthur.....	562	442	100	20	....
Total.............................	6,756	5,459	949	348	....
County Returns....................	327	292	24	11	....
Motorcycle Patrol Returns...........	9,461	8,554	466	409	32
Grand Total.........................	16,544	14,305	1,439	768	32

Total fines imposed in connection with above prosecutions, $99,260.20.

Classified return of prosecutions, convictions, dismissals, etc., for all offences covering the period November 1st, 1932, to October 31st, 1933:

Offence	Convictions	Dismissals	Withdrawals	Awaiting Disposal	Total	
					1933	1932
Abandoning Children	2	2	....	....	4	1
Abduction	1	2	2	....	5	6
Abortion	2	1	2	....	5	2
Abusive Language	....	....	....	....	....	....
Affray	9	....	....	....	9	28
Aiding and Abetting	5	....	....	....	5	10
Arson	16	13	....	....	29	41
Assault, Aggravated	8	4	....	....	12	5
“ Bodily Harm	227	63	18	....	308	279
“ Common	349	89	44	....	482	468
“ Indecent	41	9	3	....	53	68
“ on Police Officer	12	3	....	....	15	18
Assisting Prisoner to Escape	....	....	1	....	1	....
Attempted Abduction	....	....	....	....	....	....
“ Abortion	3	....	....	....	3	5
“ Arson	3	1	....	....	4	1
“ Assault	1	....	1	....	2	1
“ Breaking and Entering	4	1	....	....	5	4
“ Bribery	....	....	....	....	....	....
“ Buggery	4	1	....	....	5	....
“ Burglary	....	....	....	....	....	....
“ Carnal Knowledge	7	....	....	....	7	7
“ Fraud	3	1	....	....	4	1
“ Gaol Breaking	5	....	....	....	5	....
“ Murder	1	2	1	....	4	5
“ Poisoning	....	....	....	....	....	2
“ Rape	5	....	....	....	5	5
“ Robbery	....	....	....	....	....	3
“ Suicide	8	....	....	....	8	14
“ Theft	15	2	1	....	18	6
Attending Cock Fight	....	....	....	....	....	67
Betting	....	....	....	....	....	....
Bigamy	5	1	....	....	6	9
Breach of Amusement Tax Act	....	....	....	....	....	....
“ Bank Act	....	....	....	....	....	....
“ Billiard and Pool Room Act	....	....	....	....	....	....
“ Bread Sales Act	....	....	....	....	....	6
“ Canada Temperance Act	....	....	....	....	....	4
“ Children's Maintenance Act	6	....	....	....	6	4
“ Children's Protection Act	9	1	....	....	10	10
“ Customs and Excise Act	66	2	....	....	68	71
“ Dairy Act	1	....	....	....	1	....
“ Forest Fires Act	13	8	....	....	21	35
“ Frauds Prevention Act	12	....	....	....	12	3
“ Game and Fisheries Act	7	....	....	....	7	30
“ Highway Traffic Act	1,061	83	36	....	1,180	11,185
“ Hotels Registration Act	4	....	....	....	4	6
“ Indian Act	18	1	....	....	19	46
“ Insurance Act	1	1	1	....	3	1
“ Juvenile Delinquents Act	7	2	....	....	9	25
“ Lord's Day Act	21	....	....	....	21	40
“ Master and Servant Act	85	19	4	....	108	74
“ Medical Act	....	....	....	....	....	7
“ Mining Act	1	1	....	....	2	....
“ Narcotic Drug Act	....	....	....	....	....	2
“ Offensive Weapons Act	68	7	3	....	78	88
“ Optometry Act	1	....	....	....	1	....
“ Other Provincial Statutes	31	3	2	....	36	32
“ Parents Maintenance Act	1	....	....	....	1	6
“ Private Detectives Act	....	....	....	....	....	....
“ Public Health Act	1	2	....	....	3	5
“ Railway Act	4	1	....	....	5	1

Offence	Convictions	Dismissals	Withdrawals	Awaiting disposal	Total	
					1933	1932
Breach of School Attendance Act	2	2	1		5	5
" Theatres and Cinema. Act						
" Transportation of Fowl Act	13	1	1		15	15
" Vital Statistics Act						
" Weights and Measures Act	1	1			2	
" Peace	5	3			8	10
Breaking and Entering	632	68	15		715	544
Breaking Gaol	2				2	2
Breaking Parole	6				6	2
Bribery						3
Buggery	3	2			5	7
Burglary	38	2			40	28
Carnal Knowledge	17	14	6		37	47
Causing Bodily Harm	23	17	12		52	97
Causing Explosion			1		1	
Concealment of Birth						2
Conducting Lotteries						5
Conspiracy	12	5			17	8
Contempt of Court	3				3	9
Corrupting Children	7	1			8	16
Corrupting Witnesses		3			3	3
Counterfeiting	3		1		4	16
Criminal Libel						
Criminal Negligence	27	21	7		55	88
Cruelty to Animals	27	4	2		33	47
Damage to Property	108	26	10		144	147
Discharging Firearms	1	1			2	
Disorderly Conduct	191	19	9		219	296
Disorderly House (Inmate)	16				16	53
Disorderly House (Keeping)	6				6	12
Driving Whilst Intoxicated	175	31	18		224	182
Escaping from Custody	14				14	25
Extortion	6	7	1		14	5
False Pretenses	126	20	14		160	138
Forgery	56	7	1		64	63
Fraud	25	5	3		33	36
Fraudulent Use of Trademark	1				1	1
Gambling	2	1			3	17
Games of Chance	9				9	17
Gaming House (Inmate)	7				7	262
Gaming House (Keeping)	6	4	4		14	38
Highgrading		2			2	1
Housebreaking and Theft	28	1			29	17
Impersonating an Officer	2	3			5	5
Incest	11	3	1		15	12
Indecent Acts	14	5			19	17
Indignity to Dead Body						
Injury to Animals	14	6	1		21	23
Insane Persons	83	14	1		98	75
Intimidation	1	3	3		7	18
Kidnapping						
Libel	2				2	1
Lotteries	3				3	14
Making Handbooks	3	1			4	4
Manslaughter	7	16	1		24	28
Miscellaneous Offences	19	13	3		35	68
Mischief	9	1	4		14	21
Municipal By-laws	21	8	3		32	27
Murder	5	1			6	9
Neglect of Children						
Non-Support	46	12	5		63	67
Nuisance	7	3	1		11	6
Obscene Language	2	1			3	4
Obstructing Police Officer	50	6	9		65	59
Perjury	22	5	3		30	27
Pointing Firearms	6	5	1		12	18
Poisoning						1

Offence	Convictions	Dismissals	Withdrawals	Awaiting disposal	Total	
					1933	1932
Procuring	....	....	1	....	1	2
Prostitution	9	....	....	....	9	10
Rape	6	4	....	....	10	10
Receiving Stolen Goods	129	26	11	....	166	124
Resisting Arrest	2	....	....	....	2	1
Robbery	8	6	....	....	14	10
Robbery whilst Armed	20	1	....	....	21	32
Sedition	1	....	....	....	1	....
Seduction	13	7	1	....	21	23
Selling Tobacco to Minors	1	....	....	....	1	4
Shooting with Intent	6	2	....	....	8	7
Shopbreaking and Theft	64	1	1	....	66	20
Theft	1,234	194	75	....	1,503	1,384
Theft of Poultry	122	30	4	....	156	164
Threats	11	8	4	....	23	25
Trespass	23	8	2	....	33	39
Unlawful Assembly	....	....	....	....	....	....
Unlawful Association	....	....	....	....	....	6
Vagrancy	194	35	26	....	255	293
Wife Desertion	3	....	2	....	5	....
Wounding with Intent	20	3	4	....	27	21
Total	5,945	1,025	391	....	7,361	17,807
Highway Traffic Act cases prosecuted by Motorcycle Patrol	8,360	414	377	32	9,183	....
Liquor Control Act	2,533	288	175	....	2,996	4,274
Grand Total	16,838	1,727	943	32	19,540	22,081

DISPOSITION OF ALL CASES PROSECUTED

Convictions	16,838
Dismissals	1,727
Withdrawals	943
On Remand, Awaiting Trial, etc	32
Total	19,540

COMPARATIVE STATEMENT

A comparative statement of prosecutions, etc., under all Acts and Statutes for the year ending October 31st, 1932, and October 31st, 1933:

	1933	1932
Prosecutions	19,540	22,081
Convictions	16,838	19,025
Dismissals	1,727	1,961
Withdrawals	943	1,095
On Remand, Awaiting Trial, etc	32	12

Classification of penalties imposed upon persons convicted for all offences against the Criminal Code and other Dominion and Provincial Statutes:

Imprisonment as Penalty	2,483
Imprisonment in Default of Fine	853
Committed to Asylum	103
Fined and Fines Paid	14,271
Sentence Suspended	1,614
Otherwise disposed of	216
Total	19,540

Arrested with or without warrant and persons summoned for offences against the Criminal Code and other Dominion and Provincial Statutes:

Arrested with Warrant under Criminal Code and other Statutes	1,687
Arrested with Warrant under Liquor Control Act	241
Arrested without Warrant under Criminal Code and other Statutes	2,100
Arrested without Warrant under Liquor Control Act	1,431
Summoned, etc.	14,081
Total	19,540

A classification of the ages of persons prosecuted for offences against the Criminal Code and other Dominion and Provincial Statutes (exclusive of The Liquor Control Act and Highway Traffic Act cases prosecuted by Motorcycle Patrol):

Age 1–10	12
" 10–15	139
" 15–20	1,088
" 20–30	2,779
" 30–40	1,691
" 40–50	990
" 50–60	451
" 60–70	152
Over 70	47
Companies	12
Total	7,361

A classification by nationalities of persons prosecuted for offences against the Criminal Code and other Dominion and Provincial Statutes (exclusive of The Liquor Control Act and Highway Traffic Act cases prosecuted by Motorcycle Patrol):

Canadians	5,602
Americans	158
English	318
Indians	110
Irish	92
Italians	81
Poles	174
Russians	60
Scotch	92
Other Nationalities	662
Companies	12
Total	7,361

Classification of the sex of persons prosecuted for all offences against the Criminal Code and other Dominion and Provincial Statutes (exclusive of The Liquor Control Act and Highway Traffic Act cases prosecuted by Motorcycle Patrol):

Male	7,013
Female	336
Companies	12
Total	7,361

Classification of marital state of persons prosecuted for all offences against the Criminal Code and other Dominion and Provincial Statutes (exclusive of The Liquor Control Act and Highway Traffic Act cases prosecuted by Motorcycle Patrol):

Married	3,167
Single	4,121
Widows	5
Widowers	56
Companies	12
Total	7,361

Number of Search Warrants Executed

Under the Criminal Code	2,162
Under the Liquor Control Act	10,358
Number of Arrests for other Forces	296
Summonses served for other Forces	845

STOLEN PROPERTY RECOVERED

Property that had been reported through various sources as stolen was recovered by members of this Force to the value of $96,854.20.

CONCLUSION

Before closing this report I wish to thank you for the helpful and sympathetic manner in which you have received any proposals I have laid before you either in the matter of law enforcement or for the welfare of the members of the Force, also the Deputy Attorney-General and his staff for their ready assistance given at all times.

I have to express my appreciation of the close co-operation of the Chief Commissioner and Commissioners of the Liquor Control Board in the many matters pertaining to the enforcement of The Liquor Control Act.

I wish to thank all the Municipal Police Forces of the Province, the Royal Canadian Mounted Police, the Canadian Pacific Railway and Canadian National Railway Police Forces, also the Provincial and other Forces outside the Province for their effective assistance and co-operation during the year.

I also take this opportunity of thanking the Press for their assistance and consideration during the year. On occasions information has come into their possession which would have been detrimental to the interest of law enforcement to publish, and they have kindly refrained from publishing same. On other occasions the Press have been of the greatest assistance in publishing and broadcasting matters that required publicity.

I desire also to express my appreciation to all ranks of the Force for their loyal support and faithful attention to duty during the year, and to place on record the kind and helpful manner in which County Crown Attorneys and Police Magistrates have encouraged and assisted the members of the Force in the execution of their duties.

Respectfully submitted,

Victor A. S. Williams,
Commissioner of Police for Ontario.

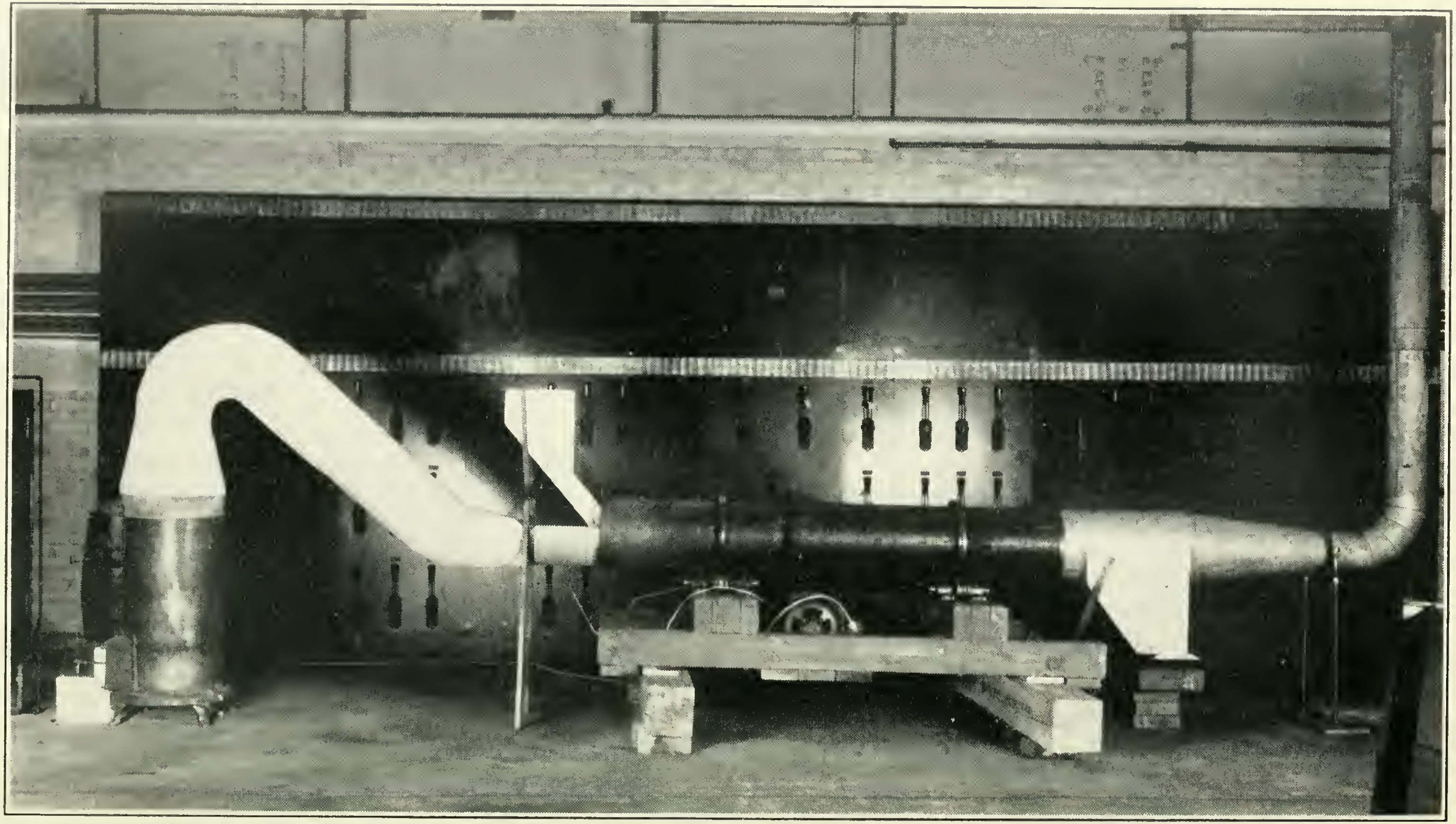


Fig. 1—Rotary dryer, designed to produce 50 lbs. of dried lignite per hour.

Ontario Research Foundation
REPORT

For the Year 1933

Presented by the Chairman
to the Lieutenant-Governor in Council
December, 1933

◆

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May 3rd, 1934.

HON. GEORGE S. HENRY, B.A., LL.D.,
Prime Minister of Ontario,
Parliament Buildings, Toronto, Ontario.

DEAR SIR:

I have the honour to submit the annual statement of the operations of the Ontario Research Foundation, as set forth by the Director, Dr. Speakman, in his letter attached herewith, and with it, the financial statement, embodying:

Exhibit A—Balance Sheet as at December 31st, 1933.

Exhibit B—Income and Expenditure Account for the year ending December 31st, 1933.

I have pleasure in again bearing testimony to the high spirit, purpose, and service of the Director and staff in the discharge of their duties.

I have the honour to be,

Your obedient servant,

J. W. FLAVELLE,
Chairman.

REPORT OF THE DIRECTOR OF RESEARCH, 1933

To Sir Joseph Flavelle, Bart, LL.D.,
Chairman.

Dear Sir:

Certain features of the past year call for special mention in relation to the work of this Foundation. We have reason to believe that during the year a slight but definite improvement took place in general business conditions. and it is of interest to record what was the reaction on our work. My colleagues join with me in expressing the view that when business improves there is a noticeable increase in the willingness of industrialists to undertake the investigation of technical and scientific problems. An analysis of this situation leads to the conclusion that we are reaching the stage when the value of scientific research is conceded, but its support is dependent upon a certain volume in trade and profits. This we regard as a necessary step in progress towards the sounder view that the investigation of problems which are vital to an industry often justifies a more courageous policy in expenditures. The place and time to avoid wasteful expenditures on research is in the plant and at the time when the problem is being discussed. The "staff" work, the discussing and planning of an investigation should determine the economic justification of the laboratory and plant investigations before they are commenced. This is not in conflict with our view that an industry should, whenever possible, carry on some research work, the outcome of which cannot be stated in precise financial terms, e.g., fundamental research into the nature and properties of basic raw materials or of wasted by-products. The important fact is that in the middle of the year a slow but continued increase in the demand for our services developed, and has continued to the present.

From the commencement of the Foundation's work in relationship to industrial problems it has been your view that as far as possible we should be reimbursed for work performed by those for whom the research was performed, and to whom the benefits thereof naturally accrue. In the interviews which we have with those directing manufacturing companies we still observe a reluctance to accept this policy and its implications. Quite often there is an impression that the Foundation is a branch of Government supported by annual appropriations, and therefore offering to all facilities and services without payment. There is still a need for occasional reference to the actual situation, namely, that our only assured income is that received from an invested trust fund which was created by the Provincial Government and private subscribers. In relation to the duties laid upon the Foundation by the Act of 1928 this income is inadequate, and success can only come by a gradual enlargement of the facilities here, chiefly by an increase in the number of qualified research workers.

In 1930 you used the following words in an article describing the work and plans of the Foundation, which appeared in "Industrial Canada": "We will, when requested, serve the need of individual manufacturers, but where the manufacturer has problems involving serious research, because we are a public body, developed expressly for the purpose of being of value to industry in general, we will ask that groups be formed of those making similar products; we will undertake the needed researches on behalf of such groups, and the members will commonly share in the results. Further, we will ask each group to assume the charge of the researches undertaken."

During the period between 1930 and the commencement of 1933 we made many attempts to co-operate with various Groups or Associations which were already in existence, and in other cases joined in efforts to form special Groups which would function in organizing and supporting industrial scientific research on a co-operative basis. We have learned by this experience that the field can and should be divided into two sections. Certain problems can be attacked and solved on this basis of co-operative effort and support. The work which we undertook on behalf of a group of automobile and plush manufacturers illustrates the natural and effective character of such an undertaking. We were greatly helped in this case by the existence of an exceptional background of close co-operation in technical problems relating to automobiles among the manufacturers concerned. More recently we have been and are still working harmoniously with a producer of artificial silk and a group of knitting companies. On the other hand, we have come to recognize the existence of a wide field of research relating essentially to the problems of individual companies. We sincerely hope that as the Foundation increases its effectiveness by experience and growth, and as its possibilities become more widely known, more companies will adopt the policy of supporting Fellowships for a definite and reasonable length of time. In several cases this has taken place, and in all cases we feel confident that the expenditure has been more than justified.

In other words, there is no essential conflict between the two types of working relationship, and your decision to allow a reasonable flexibility guided by conditions and common sense has, we consider, been amply justified.

During the year 70 companies have made use of the services of the Foundation. In some instances the work done has been relatively unimportant, but each instance adds to our own experience and helps to build up a happy working relationship. On the other hand one can state unequivocally that in many instances problems of real importance have been solved, and that the returns far exceeded the expenditures involved. Another gratifying feature of this part of our work is that in several cases companies which made use of our facilities during the first two years are returning with more problems.

One significant consequence of this increased activity is that several important lines of research started within the Foundation have suffered. There can be no question that outside work, wisely selected, should have the first demand on our time and efforts, but we hope that, as soon as possible, our resources will increase so as to permit at least some fundamental work to be in continuous progress in each important laboratory. This policy has nothing in it which conflicts or overlaps with University work. It is based on the firm conviction that whilst we can and do play a useful part by assisting others to apply scientific and technical knowledge which is already available, the primary purpose of this Foundation should be the search for additional knowledge in those fields which have been prescribed.

DEPARTMENT OF TEXTILE RESEARCH

Staff: DR. GOODINGS, DR. HALL, MR. WOOLLER, MR. COKE

Work on textile problems was originally commenced in 1929 at the request of the Canadian Woollen Manufacturers' Association. A start was made then in the equipping of suitable laboratories, and a chemist was employed to devote his whole time to work on their behalf. During the years 1929-1932 the number of enquiries sent to us increased rapidly, although they were mainly concerned with analytical problems, physical and chemical. At the commencement of 1933 this arrangement was discontinued, and since then there has been direct contact between individual manufacturers and the Foundation. The work of the Department has changed in character as a result. A good deal of analytical work of a routine character has been diverted to private laboratories, or is not being done at all. In either case it was unwise to allow this type of service to dominate this Department without sufficient monetary recompense to enable the Foundation to carry on more important lines of work. The problems which have been submitted to us have been more important, and in several cases results have been obtained which have influenced both the technical and economic side of the businesses in which these problems originated.

Up to a point this general practice is satisfactory, but we must record the fact that research in textiles in Canada is still inadequate and out of all proportion to the size and importance of the industry in Ontario. Both in research and in educational facilities we do not begin to compare with competitive countries, notably Great Britain, Germany and Japan. This situation must be corrected, and a solution can only be found when there is a greater sense of corporate responsibility in organizations representing the textile industries. Financial support is important but it is not the only stumbling block. At the present time there are no facilities for focussing attention on technical problems which relate to an entire industry. The experience of the past four years suggests that some way must be found to harmonize this crying need with the policy and methods of a highly competitive industry.

Although the Fellowship supported by the Automobile and Plush manufacturers of Canada terminated at the close of 1932 the work continued on into 1933, and a final meeting of the joint committee was held during the year. At this meeting a standard for fading tests by artificial light was adopted. This consists of a dyed material woven and finished under the supervision of the Foundation, and supplies have been sent to the interested companies. A complete file of the research reports in connection with the Fellowship was sent to associated companies in the United States at their request.

A condensed account of the work on fading was published during the year, and patents have been obtained in Canada and Great Britain for the apparatus developed by Dr. Hall. This equipment can be used to advantage by other industries in which dyes and colours are used. During the year a wide range of samples of fabrics were tested in the lamp, and these are now being compared by members of an international committee with similar samples faded in other types of equipment. In this connection mention should be made of the generous assistance we have received from the Bureau of Standards, Washington, D.C.

The Fellowship supported by Courtaulds (Canada) Ltd., has been continued throughout the year. In addition to the Quality Control of men's garments a commencement was made in the extension of the work by preparing specifications for women's rayon garments. An earnest effort has been made to improve the technical and scientific background of this investigation and the following lines of experimental work have been carried out during the year:

(1) Shrinkage and stretching of rayon goods during and after laundering.
(2) The tensile strength of woven rayon goods.
(3) Destruction of rayon by repeated launderings.
(4) Effects of heat on acetate rayon, viscose rayon, silk and wool in relation to ironing.

In order to increase the effective character of this work the Foundation is attempting to establish a closer working relationship with the knitting companies in whose plants the goods under discussion are manufactured.

Growing out of the development of the new fading lamp, research work is in progress by which it is hoped to determine accurately the temperature at the face of samples submitted to lamp radiation. These measurements are being made in a small wind-tunnel which permits known variations of light intensity and air velocity on and past the surface of the sample.

A beginning has been made to determine also the influence of the final acidity or alkalinity of a fabric on the fastness to light of the dyestuffs used. This research has involved a preliminary purification of common dyestuffs, and much interesting information has been derived.

The tensile strength of a fabric is perhaps the most widely used physical test in measurements of quality in testing laboratories. Unfortunately there are no internationally recognized standards for the test, and the results obtained have a limited value. The Department has shown, during the year, that comparative results can only be obtained by using the same type of machine, of which there are several, and by adhering strictly to certain arbitrary conditions.

DEPARTMENT OF METALLURGY

Staff: Mr. Ellis, Mr. Gordon, Dr. Goodier

During the year 40 investigations were undertaken at the request of companies within the Province. It is of some interest to note that the majority of these were on behalf of a few of the larger organizations which are relatively well equipped to carry out technical and scientific investigations. It is difficult and unwise to attempt an explanation as to why the hundreds of smaller companies have not taken advantage of the facilities offered in this Department, but certain factors are known. The "depression" has been overworked in this connection. The majority of the plants purchase supplies in an advanced state of manufacture from a metallurgical standpoint, and the custom on this continent is to refer back to the source of supply questions and problems which may arise in connection with the fabrication or use generally of these materials. This is a natural development, and the conclusion which experience dictates is that this Department must make its main contribution by fundamental research, preferably in close co-operation with the primary producers of metallurgical products.

The above statement must not convey the impression that the Department is completely out of touch with the majority of the plants in Ontario. That this is not so is shown by the number of enquiries received during the year, namely, 110, from companies and individuals. In the majority of cases these have involved conferences at the Foundation, or in the plant, and some correspondence. A service of this kind tends to grow, and in most cases it grows at the expense of other work which may be, in the long run, far more important. At present we can only make the simple statement that these companies considered the effort and time spent in coming to the Foundation to be justifiable. We, on the other hand, have no evidence as to the results, and up to the present no recompense has been asked or received for the time and thought contributed by this Foundation. During the coming year this situation must be given careful consideration.

The following brief notes will indicate the problems which have been suggested by the staff and investigated by them:

A considerable number of enquiries have been received regarding the properties of white cast iron. The gaps in present knowledge suggested the desirability of a systematic study of these alloys, and this work is now in progress. Various difficulties have been met and overcome. The problem of making a satisfactory crucible in which to melt these alloys has led to the discovery of a new refractory mixture which will be of value generally. In this connection we received generous assistance and co-operation from The Charles Taylor Sons Co. of Cincinnati.

A study has been made of the properties of the chlorides of those metals which are found in Ontario, namely, gold, nickel, copper and iron. From the information thus obtained an attempt was made to separate the metals in complex ores by conversion into chlorides and fractional volatilization. A report of this work will shortly be published.

In co-operation with the Department of Mines continued attention is being given to deposits of iron ore in the Province which by their size and grade hold out possibility of future development.

The investigation of standard screw threads has been continued, and a report on this work will be made at an international conference to be held in England during 1934. A mathematical analogy between certain problems of stress distribution and types of fluid motion has suggested a new experimental method for the investigation of fluid motions by optical observations on strained elastic plates. The first paper dealing with this work will shortly be published.

In the field of physical metallurgy several important contributions have been made during the year. A report on the influence of cooling rates on the structure of an alloy steel was presented at the Detroit meeting of the American Society for Steel Treating. This work is being extended to include similar studies of three straight carbon steels, and we hope that results of both practical and theoretical importance will be obtained.

At the annual meeting of the American Foundrymen's Association, in Chicago in June, a symposium was held at which the Foundation contributed a paper entitled, "The Mechanism of Inverse Segregation." This will appear in British and American publications.

Two reports have been published giving the results of continued investigations of the forgeability of steel.

DEPARTMENT OF CHEMISTRY

Staff: Dr. Westman, Mr. Schierholtz, Mr. Tasker, Mr. Revell,
Mr. Maconachie, Mr. Wright

This year was a transition period in the work of the Department. Problems under investigation in 1932 had reached the report stage, and in all the laboratories a good deal of time has been spent planning new work, and mastering the numerous minor difficulties associated with the initial stages of research. The following is a brief summary of the work performed in the different sections:

Ceramics—In the summer of 1932 the Ontario Department of Mines sent a field party to make a preliminary survey of showings of clay along the Missinaibi River in Northern Ontario. In all, 37 samples of clay and of sand were gathered from test-pits and auger holes. These were forwarded to the Foundation for examination and investigation. The preliminary tests showed that the clays were, with few exceptions, highly refractory in character. In some cases the clay proved to be quite pure in composition. Owing to the promising character of this material the samples have been very thoroughly tested in order to evaluate accurately their ceramic properties. A large sample of a white clay was secured, and by means of washing tests an idea has been obtained as to its possible usefulness in the paper industry.

The clays examined may be subdivided into the following groups: (1) white, sedimentary kaolins, (2) iron-stained, sedimentary kaolins, (3) iron-stained, fire clays, (4) fire clays, and (5) clay-bearing silica sands.

With regard to the technical possibilities of these materials our tests justify the following conclusions: High-grade fire bricks could be made from one or two clays in Group 4 by standard methods and without the addition of grog. By adopting, to some degree, the manufacturing technique used for Georgia kaolin bricks it should be possible to make a higher grade of fire brick from the clays of Group 1. The clays of Group 2 and Group 3 could not be used for fire brick without a preliminary study of technical problems.

The clays of Group 1 could probably be used in the manufacture of whiteware, although they could not be used indiscriminately as substitutes for English china clay. The iron-stained clays might be used for red pottery. The best clays of this group might displace the duller of the English clays in the newsprint, coloured paper, linoleum and, possibly, alum industries. These markets are limited, and it is probable that there would have to be a price differential in order to penetrate them. The silica sands merit additional exploratory work in the field, to be followed by a more complete technical investigation in the laboratory.

A similar, though not as extensive, survey was made during 1933 of the clay showings along the Mattagami River. The samples obtained are being submitted to a thorough investigation. In one case a four-ton sample of a promising fire clay was secured, so that the Department can carry through their tests to the point of making plant runs of fire brick if and when it is deemed advisable.

The work done on these clays by the Foundation will shortly be described in a printed report and made generally available. It should be emphasized that these results have been obtained with samples collected in the field, and that our technical conclusions have only a limited economic significance until more is known regarding the extent of these deposits.

In connection with the permeable pressing of ceramic mixtures tests of the firing properties of small discs, made according to methods described in a previous Report, were continued. A summary of this work was presented at the February meeting of the American Ceramic Society. During the year technique and apparatus have been developed to enable larger test-pieces to be made, and the research programme has included a detailed study of ceramic bodies used in the following industries: sewer pipe, chemical stoneware, electrical porcelain, glass-melting pots and semi-vitreous china.

Fuel—Towards the close of 1932 a detailed report of the work done on Northern Ontario lignite was presented to the Minister of Mines. After summarizing the geological, mining, processing and economic data then available the view was expressed that no large-scale commercial development of the deposit was justifiable at the time. It was recognized and shown that this conclusion might at any time be altered by a slight change in the economics of the sale of fuel in Northern Ontario, or by additional technical knowledge. The Foundation has recommended on these grounds a continued, modest expenditure on laboratory and semi-commercial research dealing with processing problems.

Particular attention has been devoted to a study of methods for the production of a flue-gas dried lignite, low in moisture and capable of being transported with safety to plants equipped with standard power-house equipment. The investigation commenced with a small static drier in which the general behaviour of raw lignite when exposed to hot gases could be studied. It is now at the stage when a semi-commercial rotary drier, designed and built by the Foundation (*see fig. 1*) is turning out relatively large throughputs of lignite containing less than 3 per cent. moisture. This fuel has many desirable characteristics, and is being thoroughly investigated.

Experiments on the moisture absorption by lignite, raw and in a processed condition, have disclosed the important fact that when the moisture content is reduced by processing from 50 per cent. to less than 12 per cent., this figure does not rise subsequently to above 22 per cent. even in a surrounding atmosphere of close to 100 per cent. relative humidity.

The economics of the distribution and sale of fuel in Northern Ontario are being followed by means of a monthly survey.

Gas—In the gas laboratory the rapid corrosion of domestic, hot-water. storage tanks has occupied the major part of the time. At present, the difficulties encountered in service can only be overcome by substituting relatively expensive tanks, made of special alloys, for the galvanized iron tank. In 1932 the factors governing the corrosion had been worked out, and during 1933 attention has been concentrated on potential remedies. We can now state that service trials in the laboratory have indicated two possible solutions, and in the near future we hope to see specimen tanks manufactured and installed under working conditions.

A comprehensive report has been made concerning the cokes available on the Toronto market. Chemical and physical surveys were succeeded by firing tests under controlled conditions. The report concluded with specific recommendations for the improvement of gas coke.

A refrigerator which is a modified form of the standard gas refrigerator has been developed. The principal modification has successfully overcome the formation of frost on the cooling unit, leading to more continuous and economical operation. It is possible also that the foodstuffs stored in such a refrigerator may retain their freshness for longer periods. The apparatus has been submitted to a rigid test in the laboratory, and we hope shortly to explore more fully its commercial possibilities.

The connections on gas meters are important devices. They must be gas-tight and easily demountable, qualities which are to some extent conflicting. The model now in use has been submitted to rigid and controlled tests. Certain improvements have been suggested, and a new design is under investigation.

The work in the gas laboratory has been supported for three years by the Consumers' Gas Company. It is a pleasure to acknowledge the constant co-operation of the officers of the Company, and also to state that owing to the generosity of the Directors, the results of these investigations have, up to the present, been made available to the gas industry throughout the world.

Geophysics—A preliminary geophysical survey of the iron ore outcroppings at Grand Rapids, Northern Ontario, was undertaken in 1931. The results were encouraging, and during the summer of 1933 this work was continued, on a co-operative basis, by the Dominion Observatory, Ottawa, the Provincial Department of Mines, and this Foundation. Intensive magnetometer and torsion balance surveys were made, and they both indicate the existence of a pronounced magnetic anomaly in the immediate neighbourhood of the outcroppings. The precise connection between the ore and the anomaly can only be determined by drilling operations and possibly the sinking of a shaft. One valuable result of the summer's work was a greater confidence in our ability to prospect successfully along the boundaries of the lignite deposits using the torsion balance.

We desire to acknowledge the generous co-operation of the Director of the Dominion Observatory who made this field work possible by placing at our disposal the services of Mr. Miller and his valuable geophysical apparatus.

General Chemistry—In the general chemical laboratory, the investigation of the reasons for the rapid tarnishing of gilt wallpaper has been energetically continued. The laboratory experiments suggested preventive measures, and these were put to the test by our securing the co-operation of one of the paper companies. Trial runs of a new type of wallpaper stock have been made with a considerable degree of success.

Steam distillation is a standard practice in the chemical industry, but it is only one possibility of many processes based on mixtures of partially or completely immiscible liquids. A commencement has been made in a fundamental study of this problem, and a number of liquid organic substances have been synthenized in the laboratory in preparation for this programme.

It is difficult to understand why more use has not been made of this Department by the industries of the Province. We have not thought it wise or necessary to enter the field of routine analytical chemistry, but there remains the broad field of research in chemistry. Within the Province there are scores of manufacturing organizations which have no technical or scientific staffs. Chemistry in one form or another is the basis of their manufacturing operations, and in no other field is there greater necessity for breadth of view and a willingness to keep abreast of scientific and technical progress. The returns to industry have been shown to be correspondingly great.

DEPARTMENT OF BIOCHEMISTRY

Staff: Dr. Barbour, Dr. Hanes, Mr. Henry, Mr. Jarvis, Dr. Skey

Fermentation—During the year a Senior Fellow has been engaged in a co-operative research programme with one of the distilling companies. Our attention has been chiefly directed to a careful study of the production of industrial alcohol from molasses. The factors controlling the speed and degree of fermentation have been considered both from a qualitative and quantitative point of view. The essential, but moderate, changes necessary in the plant have been made to enable these factors to be under constant control. During the year a well equipped control laboratory was installed, and at the present time all necessary routine determinations are being made. A very gratifying and permanent improvement has been achieved in the yield of alcohol.

Later in the year the distilling operations of the plant were investigated with a view to improving the quality of refined spirit. As a result of this investigation the losses of alcohol in the slop have been reduced, and a much better grade of cologne spirit is now being produced.

Preliminary work has been in progress to improve the efficiency of grain fermentations along lines similar to those adopted in the industrial alcohol plant.

Leather—It is gratifying to be able to report that, during the year, we have established a close working relationship with several of the important leather manufacturing companies. This is the natural consequence of the earlier efforts to demonstrate to the industry what possibilities exist and we can now point to several months of combined effort which have produced valuable results in the plants of these companies. I shall mention briefly one or two of the problems which have been submitted to us.

Considerable loss frequently occurs in shoe factories on account of the checking of patent leather in the finish. This takes place usually either during or shortly after the lasting operation. The causes suggested by practical men are numerous, including over-severe lasting, inadequate control of mulling, and poor quality finish on the leather. Very often the operator can detect the cause and make the necessary adjustments, but sometimes it is due to an unseen defect in the leather or in the finish. In these cases the problem can only be solved by a thorough examination of the chemistry and microscopical structure of the leather and the coats of finish. In the case brought to our attention this line of attack was followed, defects were quickly recognized and appropriate remedies adopted.

Finished leather of various kinds frequently becomes disfigured in the store room by a white, soft film which gradually builds up in patches over the surface. This phenomena is known in the trade as "spew", of which there are several types. In one type the film is caused by an accumulation of solid fatty acids, mainly palmitic and stearic, which are white in colour. These may originate in the natural fat of the hide or in liquors used in the preparation of the finished leather. In the case we are considering the "spew" was eliminated by changing the formula of the fat-liquor.

A good deal of constructive effort has been put into the investigation of problems arising in the manufacture of patent leather. The Department is now equipped to make our own finishes and to manufacture patent leather on a semi-commercial scale under controlled conditions. This equipment will enable a close study to be made of the factors which determine the quality of the final product.

On the fundamental side a start has been made in the publication of experimental results showing the distribution of fat in finished chrome leather.

Nutrition—The work on the feeding of saturated fatty acids, which was commenced in 1932, has been completed. It has been found that the saturated fatty acid content of experimental animals is proportional to the content of these acids in the dietary fat and not to its iodine value. There is also a threshold value for saturated fatty acids upon which increased qualities of saturated fat in the diet have no effect. There was no evidence of fat deposition in the livers. Arachidic acid, found in peanut oil, was only present in traces in the body fat of animals fed liberal quantities of the oil.

A comparative study has been made of four well-known methods for the measurement of the constant, known as the "iodine value". Each method was used on four different fats, and the results will shortly be published.

During the year improved facilities have been created in the Foundation for the biological estimation of Vitamins B, C, and D.

Plant Physiology—The work which has been done in the field of plant physiology concerns the carbohydrate and respiratory metabolism of plant tissues. In particular, certain problems connected with the processes of maturation and germination of the barley grain have been under investigation.

A considerable amount of time was spent in an attempt to elaborate a system of sugar analysis for the purpose of following the concentration of various sugars in the tissues of barley grains during maturation and germination. Since during the former process the starch reserves are being laid down in the endosperm, and during the latter, this reserve material is being drawn upon by the developing embryo, it is clear that a precise knowledge of the drifts in concentration of various simple sugars during these processes would be of importance in relation to the problem of starch synthesis. After a careful testing of various methods, a procedure was finally evolved by which it was possible, where working with pure sugars in solution, to determine with fair precision small amounts of glucose, fructose, maltose and cane sugar in mixtures When this procedure was applied to tissue extracts, however, it was found to give unreliable results, owing to the interference of some unknown material in the extracts, and all attempts to free the preparations from the interfering substance have failed. For this reason it has not yet been possible to determine quantitatively the concentration levels of these sugars. Certain qualitative facts, however, were ascertained, namely, that during both maturation and germination maltose and sucrose are present in considerable amounts, glucose in lesser quantity and fructose in mere traces if at all.

A study was made of the progress of the respiration rate of barley grains during maturation. Certain interesting facts came to light in connection with this study. It was found that immature embryos, if removed from the seed coats of immature grains, proceeded to develop, rapid growth of roots and shoots taking place, whereas if left "in situ" within intact seed coats no development of the embryos could be induced. Experiments with immature grains of other cereal showed that the precocious development of the embryo on being removed from the seed coats is not peculiar to barley; in corn, for example, it was found that minute embryos taken from grains in the "milky" stage could be induced to develop actively. The bearing of these observations on the problem of dormancy is clear. It would appear that the failure of the embryo to develop within the seed coat is to be explained on the basis of the carbon dioxide narcosis hypothesis of Kidd.

A study of the two components of the starch-splitting enzyme of barley is now in progress.

Agriculture—During the summer and autumn months an investigator was stationed in the Niagara fruit district and one in the mixed farming region lying between Schomberg and Bradford and west of Lake Simcoe. In both districts a beginning has been made in the investigation of problems which are the cause of serious financial losses to the farmers.

A great deal of sound scientific work has been and is being done in the Niagara district by other institutions. It is a well known fact, for example, that it is a happy hunting ground for the plant pathologist. The soils of the district are known, and the surface soils have been mapped. Much valuable work has been done in the breeding and testing of new varieties. In spite of this it can still be said that the forces available are inadequate, and each year very serious losses are encountered due to the ravages of disease. We are attempting to correlate accurately the relationship between one or two of the common diseases of fruit trees and (*a*) the variety of the tree, (*b*) the soil type and general characteristics of the soil within the area influencing the growth of the root system, and (*c*) the cultural practice followed in individual orchards. The justification for this line of attack is the readily observed phenomenon that in a district which is remarkably uniform and favourable in general climatic conditions there are surprising differences in the health of trees and the return they bring to the farmer.

Around Schomberg we have co-operated with the farmers in a preliminary survey of fields in which the oat crop was a partial or complete failure (*figs. 2 and 3*). It is unnecessary to enlarge on the part that oats play in the balanced economy of a typical Ontario farm. One can say with confidence that unless the problem is solved a radical change will have to be made in the rotation of crops on those farms which are affected. Last year we followed the changes in several fields. The young plants appeared green, healthy and normal. In June the older leaves began to turn red. Growth was stunted, and only a small percentage of plants produced any ripe heads. Weeds rapidly invaded the fields, and by the end of August they were a disappointing and desolate sight. In many cases the crop was not harvested.

The distribution of the condition has been roughly determined, and this distribution has been correlated with the soil types of the region. When the plants have become sickly in appearance the root system is infested with animal and plant parasites. The chemical composition of the particular soil presents certain problems. There may be an excess of certain chemicals and a deficiency of others. During 1934 we hope to analyse these observations more completely, and we are planning experiments in the field. This work has been made possible owing to the wholehearted co-operation of the farmers in this district. It is a pleasure to acknowledge the assistance we have received from the Department of Botany in the University of Toronto, and the Department of Soil Chemistry in the Ontario Agricultural College.

Agricultural Economics—During the year just expired we completed an historical survey of co-operative marketing of agricultural products in Ontario. This work involved the collecting of a great deal of material consisting of

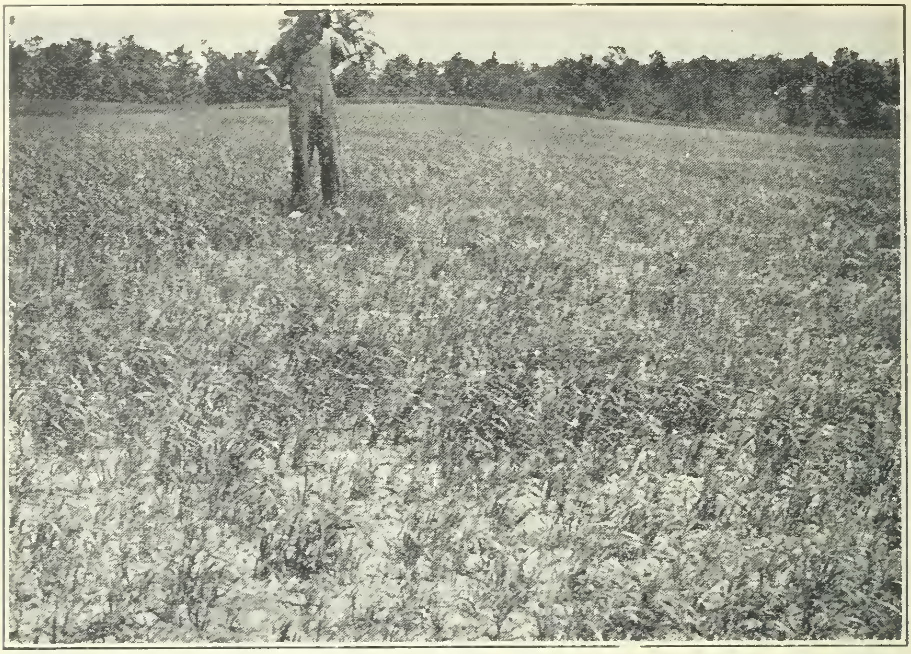


Fig. 2—Field of diseased oats, 29 days after sowing, showing patchy distribution.

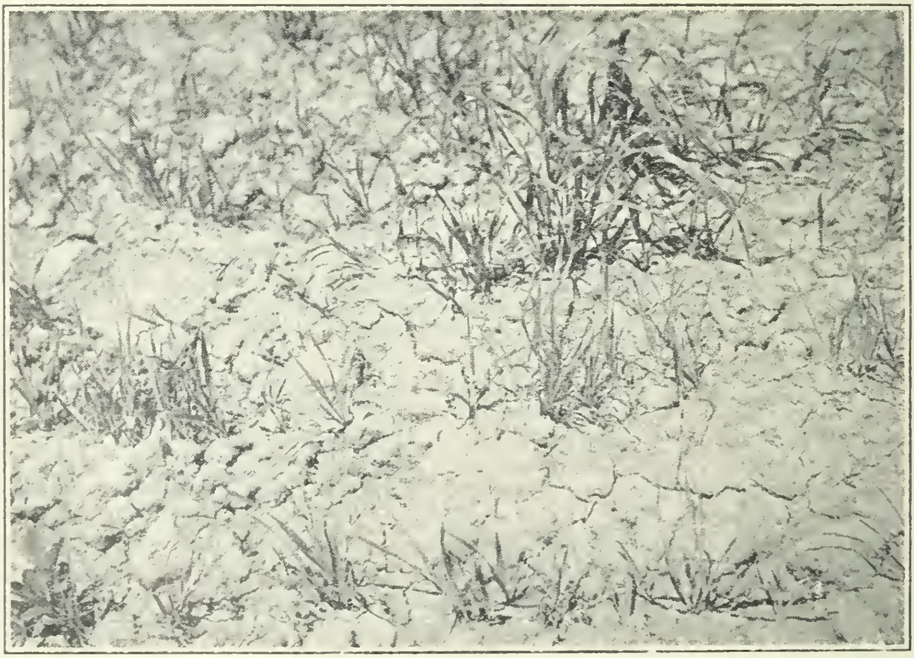


Fig. 3—Near view of same field showing plants with severe symptoms of seedling disease. The characteristic stunting and erect stiff habit of affected plants can be compared with the small clump of more healthy plants.

published documents and personal records which may be of great value to those who are interested in current efforts to develop successful marketing schemes.

A more detailed study has been commenced of the problems associated with the marketing of fruit grown in the Niagara district. During recent years the growing of grapes has increased, and the successful marketing of the crop both as fresh fruit to householders, and to the wine industry, now presents many problems.

DEPARTMENT OF VETERINARY SCIENCE

Staff: DR. HADWEN, DR. GWATKIN, MR. FALLIS

In previous Annual Reports, full accounts have been given of the experimental and field work in progress in this Department in connection with Bang's disease (bovine contagious abortion). This year brief reference will be made to the results obtained during the past twelve months.

The area plan which has been in operation in the Schomberg district was an experiment. No one could foretell the outcome, and there were many who doubted both the technical background of this work and the possibility of our securing the degree of co-operation from the farmers which is a prerequisite of success. It is one thing to vote for a resolution at a meeting, and to promise to join a movement. It is another matter to observe faithfully, over a long period, a set of rules and regulations which are irksome, and to accept financial losses, without wavering, in order to lay the foundations for future success. It is with very real pleasure that we make the following report concerning the area.

In the original district there are now 62 farmers and 15 small-holders. The number of cattle on these premises has increased from 655 to 797. At the close of the year there were no positive animals, and five suspicious cases were in isolation.

Animals entering the area are purchased subject to test, usually they come from clean herds, but in other cases they are quarantined for a definite period. The value of this rule is illustrated by the following example: A farmer who had sold for slaughter five reactors, purchased 18 animals subject to test. Five of these were positive and three suspicious, and they were all rejected. Movements of infected animals are taking place all over the Province, and the disease is constantly being revived in herds by the introduction of new strains of the specific organism.

In addition to the control of Bang's disease 29 farmers have co-operated with the area veterinarian in the eradication of tuberculosis from the herds. *No compensation has been paid to these farmers.* In all 45 farmers have herds which are free from both Bang's disease and tuberculosis.

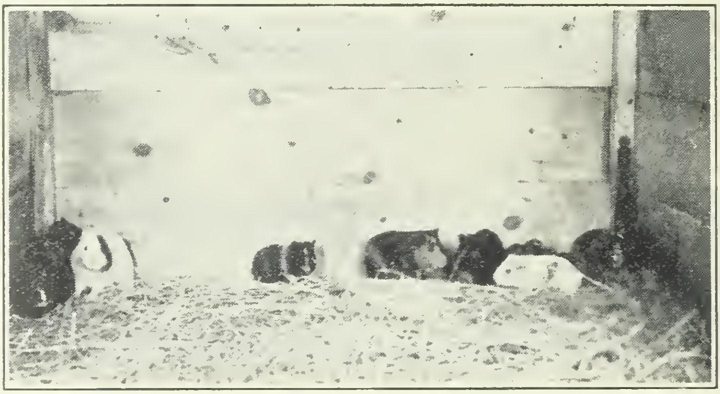
During 1932, the original area was enlarged and there are now 74 farms in the extension on which there were, at the close of this year, 640 adult cattle. There are still 10 positive and 8 suspicious cattle on the farms. An example of a typical abortion wave is afforded by one farm on which there were 19 positive animals. In a very short period 17 of these aborted. The farmer has sold 14 for slaughter and the remainder are isolated. He has since purchased a new herd of 14 negative animals.

Possibly owing to the fact that the same educational work had not been done in this part of the area before the plan was launched, there have been a few infractions of the rules. Fortunately the cases are known. One farmer has been suspended from the group, and in two other cases steps were immediately taken to remove positive animals which had been introduced.

We are continuing work similar to the above on six farms associated with institutions under the Provincial Department of Health. In a very short time we hope to have clean herds, and this result will be largely due to the enthusiastic support given to the plan by Dr. B. T. McGhie, the Deputy Minister of Health, Mr. Robert Beatty, Mr. Beardall of this Department, and the Superintendents and farm managers at the Institutions.

The experimental work in connection with Bang's disease has continued. In our last report mention was made of encouraging results which had been obtained in the prevention of infection in guinea-pigs by previous injections of serum from infected guinea-pigs. An attempt was then made to produce

Fig. 4—Effect of Brucella Abortus on breeding as shown in guinea-pigs.



(a) Infected group, in which there were 6 guinea-pigs in April 1933, increased to 9 by January 1934.

(b) Uninfected group, in which there were 6 guinea-pigs in April 1933, increased to 44 by January 1934.

in the cow a serum which would have similar and intensified protective qualities. The serum obtained from three animals in which repeated injections of culture had been made was less protective than some obtained from naturally infected cows. The serum of a cow which had ceased to react to the agglutination test showed no specific protective action, although it delayed the development of agglutinins in infected guinea-pigs. None of the cow sera used had any curative effect on guinea-pigs in which infection had been already established. In view of these encouraging but variable results, an unsuccessful attempt was made to concentrate the serum.

To illustrate the effect of *Brucella abortus* on breeding, an experiment was conducted on guinea-pigs (*see Fig. 4*). Two groups of animals, each consisting of 1 male and 5 females, were placed in separate pens. At the conclusion of the experiment group (*a*), which was infected, had increased from 6 to 9, whereas over the same period and under the same conditions the uninfected group (*b*) increased from 6 to 44 animals.

Parasitology—During the year a commencement has been made in the formation of a collection of the parasites found on and in both domesticated animals and the fishes, birds and animals which are found wild in Ontario. This will take many years to complete because, so far, little work has been done along these lines in this Province. The securing of the specimens is followed by identification whenever possible. During the year, every carcass which was examined showed parasitic infestation. This type of work is the starting point for research dealing more directly with economic problems. In the first place, several of the parasites found had not been observed previously, and their influence on the general health of the pest is unknown. In many cases there are large gaps in our knowledge of the life history of the parasite, and consequently preventive measures cannot as yet be placed on a scientific basis.

During the winter months laboratory work was undertaken. The life history of an echinostome found in geese was checked and additional facts recorded. A new species of trematode of the genus *Alaria* was discovered in a dog. The effect of temperature on the rate of germination of the eggs of the parasite was observed. During these experiments, the morphology of the developing embryo was recorded. The adult form has been described in co-operation with Dr. La Rue of the University of Michigan.

It is with pleasure that we express our thanks to the Ontario Fisheries Research Laboratory, the Ontario Experimental Fur Farm, the Department of Game and Fisheries, and the Health of Animals Branch of the Federal Department of Agriculture for their generous co-operation in facilitating the collection and study of parasites.

Pathology—Observations have been made in the colour changes in the fur of the snowshoe rabbit, *Lepus Americanus virginianus.* Seasonal changes in the skin from prime to unprime were followed. The colour pattern of the coat is due to the production of several pigments in the hair roots. The white coat of the hare in winter is due to the disappearance of pigment in the brown hairs and not to the growth of new white hairs. These changes have been more clearly demonstrated experimentally.

All of which is respectfully submitted.

Faithfully yours,
H. B. SPEAKMAN,
Director.

Appendix A

ADVISORY COUNCIL

Chairman: Sir Joseph Flavelle, Bart.
Vice-Chairman: E. Holt Gurney, Esq.
Advisory Council:

W. J. Bell, Esq., B.S.A.	Principal, Kemptville Agricultural School, Kemptville, Ontario.
J. P. Bickell, Esq	President, McIntyre-Porcupine Mines, Ltd., Standard Bank Building, Toronto.
J. H. Black, Esq	Vice-President, Spruce Falls Power and Paper Co., 330 Bay St., Toronto.
N. E. Bolton, Esq	Research Department, T. Eaton Co., Ltd., Toronto.
Thomas Bradshaw, Esq	President, North American Life Assurance Co., Toronto.
H. H. Champ. Esq.	Vice-President, The Steel Company of Canada, Ltd., Hamilton, Ont.
G. I. Christie, Esq., B.S.A., D.Sc.	President, Ontario Agricultural College, Guelph, Ontario.
A. L. Clark, Esq., B.Sc., Ph.D	Dean, Faculty of Applied Science, Queen's University, Kingston, Ontario.
Elmer Davis, Esq	Vice-President, A. Davis & Son, Ltd., Kingston, Ontario.
R. C. Dearle, Esq., M.A., Ph.D.	Professor of Physics, University of Western Ontario, London, Ontario.
W. A. Dryden, Esq	Stock-breeder, Maple Shade Farm, Brooklin, Ontario.
Kenneth J. Dunstan, Esq	The Bell Telephone Company of Canada, 76 Adelaide Street West, Toronto.
J. G. FitzGerald, Esq., M.D.	Director, School of Hygiene and Connaught Laboratories, University of Toronto.
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Louis Lang, Esq	President, Lang Tanning Co., Ltd., Kitchener, Ontario.
G. C. McEwen, Esq	Vice-President and General Manager, Imperial Varnish & Colour Co., Ltd., 6 Morse St. Toronto.
Robert McEwen, Esq	Stock-breeder, Alloway Lodge Stock Farm, Byron, Ontario.
George McLaughlin, Esq.	Box 235, Oshawa, Ontario.

J. Stanley McLean, Esq	President, Canada Packers, Limited, Toronto.
J. C. McLennan, Esq., O.B.E. Ph.D., F.R.S.	Professor Emeritus of Physics, University of Toronto.
Humfrey Michell, Esq., M.A.	Professor of Political Economy, McMaster University, Hamilton.
Robert Miller, Esq	Stock-breeder, Stouffville, Ontario.
W. Lash Miller, Esq., B.A., Ph.D.	Professor of Physical Chemistry, University of Toronto.
Paul J. Myler, Esq	President, Canadian Westinghouse Co., Ltd., Hamilton, Ontario.
T. A. Russell, Esq., LL.D	President, Massey-Harris Co., Ltd., Toronto.

ADVISORY REARCH COMMITTEES:

Contagious Abortion in Cattle—Committee of Enquiry

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T. A. Russell, LL.D.	President, Massey-Harris Co., Ltd., Toronto.
Vice-Chairman:	
Geo. W. McLaughlin	Stock-breeder, Oshawa, Ontario.
Secretary:	
Ronald Gwatkin, D.V.Sc	Fellow in Veterinary Research, Ontario Research Foundation: Bacteriologist, Ontario Veterinary College, Guelph.
F. G. Banting, M.C., M.D., LL.D	Professor of Medical Research, University of Toronto.
G. I. Christie, Esq., B.S.A., D.Sc.	President, Ontario Agricultural College, Guelph.
W. A. Dryden	Stock-breeder, Maple Shade Farm, Brooklin, Ontario.
J. G. FitzGerald, M.D., LL.D.	Director, School of Hygiene, University of Toronto.
D. T. Fraser, M.C., B.A., M.B	Professor of Hygiene and Preventive Medicine, University of Toronto
Seymour Hadwen, D.V.Sc.	Director of Veterinary Research, Ontario Research Foundation.
Oskar Klotz, M.B., M.D., C.M	Professor of Pathology and Bacteriology, University of Toronto.
C. D. McGilvray, V.S., M.D.V., D.V.Sc.	Principal, Ontario Veterinary College.
E. A. Watson, V.S.	Chief Animal Pathologist, Health of Animals Branch, Ottawa.

Contagious Abortion in Cattle—Provincial Hospitals Committee:

F. G. Beardall	Provincial Secretary's Department.
Robt. Beatty	Director of Government Farms, Ontario Reformatory, Guelph.

Ronald Gwatkin, D.V.Sc.	Fellow in Veterinary Research, Ontario Research Foundation.
Seymour Hadwen, D.V.Sci	Director of Veterinary Research, Ontario Research Foundation.
B. T. McGhie, M.D.	Chief Director of Hospital Services.
H. B. Speakman, D.Sc	Director, Ontario Research Foundation.

Lignite and Iron Ore Committees:

A. R. Crozier	Geologist, Department of Mines, Ontario.
W. S. Dyer, Ph.D	Geologist, Department of Mines, Ontario.
O. W. Ellis, M.Sc	Director of Metallurgical Research, Ontario Research Foundation.
T. W. Gibson	Deputy Minister of Mines, Ontario.
J. R. Gordon, B.Sc	Fellow in Metallurgical Research, Ontario Research Foundation.
Ralph Skelton, B.Sc	Secretary, Ontario Research Foundation.
H. B. Speakman, D.Sc	Director, Ontario Research Foundation.
T. F. Sutherland, M.E.	Acting Deputy Minister of Mines, Ontario.
Cyril Tasker, M.Sc	Research Fellow in Fuels, Ontario Research Foundation.
A. E. R. Westman, Ph.D	Director of Chemical Research, Ontario Research Foundation.

Appendix B

ONTARIO RESEARCH FOUNDATION STAFF

DECEMBER 31ST, 1933

Director: H. B. SPEAKMAN, D.Sc. (Manc.).
Secretary: RALPH SKELTON, B.Sc. (McGill).
Assistant to the Secretary: MISS MARGHERITA LOMBARDO.
Librarian: MISS MAYNARD GRANGE.

DEPARTMENT OF METALLURGY

Director: O. W. ELLIS, M.Sc. (Birm.).
Secretary: MISS L. L. BLACKBURN.
Research Fellow: J. R. GORDON, B.Sc. (Queen's).
Research Fellow: N. GOODIER, Ph.D. (Cantab.), Sc.D. (Mich.).
Instrument Maker: J. F. LOW.

DEPARTMENT OF CHEMISTRY

Director: A. E. R. WESTMAN, M.A., Ph.D. (Tor.).
Secretary: MISS MARJORIE MACPHERSON.
Research Fellow: O. J. SCHIERHOLTZ, B.A.Sc. (Tor.).
Research Fellow: CYRIL TASKER, M.Sc.Tech. (Manc.).
Research Fellow: J. E. MACONACHIE, M.A. (Tor.).
Research Fellow: G. A. REVELL, B.Sc. (Queen's).
Research Fellow: T. J. WRIGHT, M.A. (Tor.).

DEPARTMENT OF TEXTILE RESEARCH

Director: A. C. GOODINGS, M.A., Ph.D., (Leeds.)
Research Fellow: R. O. HALL, Ph.D. (Leeds).
Research Fellow: ARNOLD WOOLLER, M.Sc.Tech. (Manc.).
Research Fellow: C. E. COKE, M.Sc. (Man.); M.A. (Tor.).
Assistant: FRANK BISHOP.

DEPARTMENT OF VETERINARY SCIENCE

Director: SEYMOUR HADWEN, D.V.Sci. (McGill), F.R.S.C.
Secretary: MISS RUTH MACKENZIE.
Research Fellow: RONALD GWATKIN, V.S., D.V.Sc.
Research Fellow: A. M. FALLIS, B.A., (Tor.).
Area Veterinarian: A. H. MACLEOD, V.S.
Animal Keeper: J. E. PRITCHARD.

DEPARTMENT OF BIOCHEMISTRY

Director: H. B. SPEAKMAN, D.Sc (Manc.).
Secretary: MISS SUZETTE TROOP.
Research Fellow: T. D. JARVIS, B.S.A. (Tor.)
Research Fellow: A. D. BARBOUR, B.A.Sc., M.A., Ph.D. (Tor.).
Research Fellow: W. C. HENRY, B.A. (Tor.).
Research Fellow: C. S. HANES, B.A. (Tor), Ph.D. (Cantab.).
Research Fellow:B. P. SKEY, A.E. (Prague), M.A., Ph.D. (Tor.).
Artist: MISS MARGARET CLARKE.

EXTRA MURAL FELLOWSHIP

T. H. JUKES, B.Sc.A. (Tor.), Department of Biochemistry, University of Toronto.

Appendix C

LIST OF PUBLICATIONS TO DECEMBER 31ST, 1933

BARBOUR, A. D.

*A Useful Constant for Oil Identification. The Use of the Kaufmann Thiocyanogen Value in the Analysis of Fats and Oils. *Oil and Fat Industries*, 1930, *7*, pp. 255-257.

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*The Influence of Altered Host Metabolism upon Modification of the Infection Type with *Puccinia Graminis Tritici.* P.F. 21 *Phytopathology*, 1932, *22*, pp. 493-555.

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*Stresses in Domes and Crowns of Circular Kilns. *Journal of the American Ceramic Society*, 1933, *16*, pp. 220-228.

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and HUGIL, H. R.

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and McDOWELL, J. SPOTTS.

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*A limited number of those reprints marked with an asterisk are still available and may be obtained on application to the Librarian.

APPENDIX D

ONTARIO RESEARCH FOUNDATION

EXHIBIT "A"

BALANCE SHEET

AS AT DECEMBER 31, 1933

ASSETS

Cash in Bank and on Hand:			
In Canadian Bank of Commerce:			
Trust Bank Account	$90,292.38		
Operating Bank Account	20,929.94		
		$ 111,222.32	
Petty Cash		43.14	
Total Cash			$ 111,265.46
Investments—at cost:			
Canadian Trustee Bonds		3,048,381.70	
Canadian Public Utility Bonds		139,470.27	
Realty Bonds		78,187.18	
Bonds of the British Empire outside Canada		83,111.35	
Foreign Government Bonds		19,248.20	
Miscellaneous Bonds		21,648.30	
		3,390,047.00	
Accrued Interest thereon to Dec. 31, 1933		45,733.13	
Total Investments			$ 3,435,780.13
Accounts Receivable:			
Sundry Accounts Receivable		3,741.57	
LESS Reserve		1,247.36	
			2,494.21
Advances			200.00
Stores and Containers			8,201.66
Prepaid Insurance			955.63
Structural Alterations and Additions		6,555.81	
Apparatus and Instruments		8,634.40	
Office Furniture and Fixtures		2,405.27	
Library		7,949.67	
			25,545.15
			$ 3,584,442.24

LIABILITIES, RESERVES AND SURPLUS

Accounts Payable			$ 560.51
Reserves:			
Reserve provided for depreciation in value of Securities		$ 180,000.00	
Reserves for Replacement of Equipment:			
Structural Alterations and Additions	$ 9,958.46		
Apparatus & Instruments	22,950.81		
Office Furniture & Fixtures	2,587.54		
Library	3,338.98		
		38,835.79	
Total Reserves			$ 218,835.79
Total Subscriptions		$ 3,726,670.00	
LESS *Subscriptions Unpaid:*			
Not Due	$ 221,810.00		
Overdue	141,810.00		
		363,620.00	
Subscriptions Paid			$ 3,363,050.00
Income Surplus			1,995.94
			$ 3,584,442.24

Signed on behalf of Ontario Research Foundation.
RALPH SKELTON,
Secretary-Treasurer.

I have audited the books and accounts of Ontario Research Foundation for the year ended December 31st, 1933, and I have received all the information and explanations I have required and I certify that the above Balance Sheet is, in my opinion and subject to my Report, a true and correct view of the affairs of Ontario Research Foundation as at December 31, 1933, according to the information and explanations given me and as shown by the books of account.

January 30, 1934.

A. ELLIOTT ALLEN, C.A.,
Of Allen, Miles & Fox,
Chartered Accountants.

EXHIBIT "B"

ONTARIO RESEARCH FOUNDATION
INCOME AND EXPENDITURE ACCOUNT
FOR YEAR ENDED DECEMBER 31, 1933

INCOME				
Balance at January 1, 1933			$ 806.86	
Bond Interest:				
Received	$124,123.49			
Accrued	45,733.13			
		$169,856.62		
U. S. Premiums		5,549.17		
Bank Interest		2,268.58		
Researches:				
For Industrial Corporation	18,311.23			
For Government Departments	20,364.19			
		38,675.42		
Discount Taken		86,16		
Sterling Exchange		49.36		
		216,485.31		
Gain on Securities Sold		14,444.93		
			230.930.24	
				$231.737.10
EXPENDITURE				
Salaries:				
Laboratory Salaries	84,410.53			
Other Salaries	26.058.72			
		110,469.25		
Laboratory Expense:				
Chemicals	838.21			
Apparatus	1,783.33			
Other Supplies	3,062.69			
Travelling	3,591.45			
Sundry	3,205.58			
Special Grants	2.966.54			
		15,447.80		
General Expense:				
Bank Charges	245.16			
Brokers' Charges	61.03			
Fuel	2,224.02			
Gas and Water	648.89			
General Expense	5.098.32			
Insurance	715.79			
Light and Power	1,169.10			
Office Expense	962.16			
Postage and Excise	338.52			
Repairs to Buildings	172.99			
Staff Annuity Acc't	1,699.68			

Telephone And Telegraph	869.11			
Travelling	1,063.28			
		15,268.05		
			141,185.10	
Depreciation:				
On Structural Alterations		2,150.81		
On Apparatus and Instruments		6,218.72		
On Furniture and Fixtures		648.01		
On Library		1,054.61		
On Securities		75,983.91		
On Accounts Receivable		2,500.00		
			88,556.06	
				229,741.16
INCOME SURPLUS AS AT DECEMBER 31, 1933				$ 1,995.94

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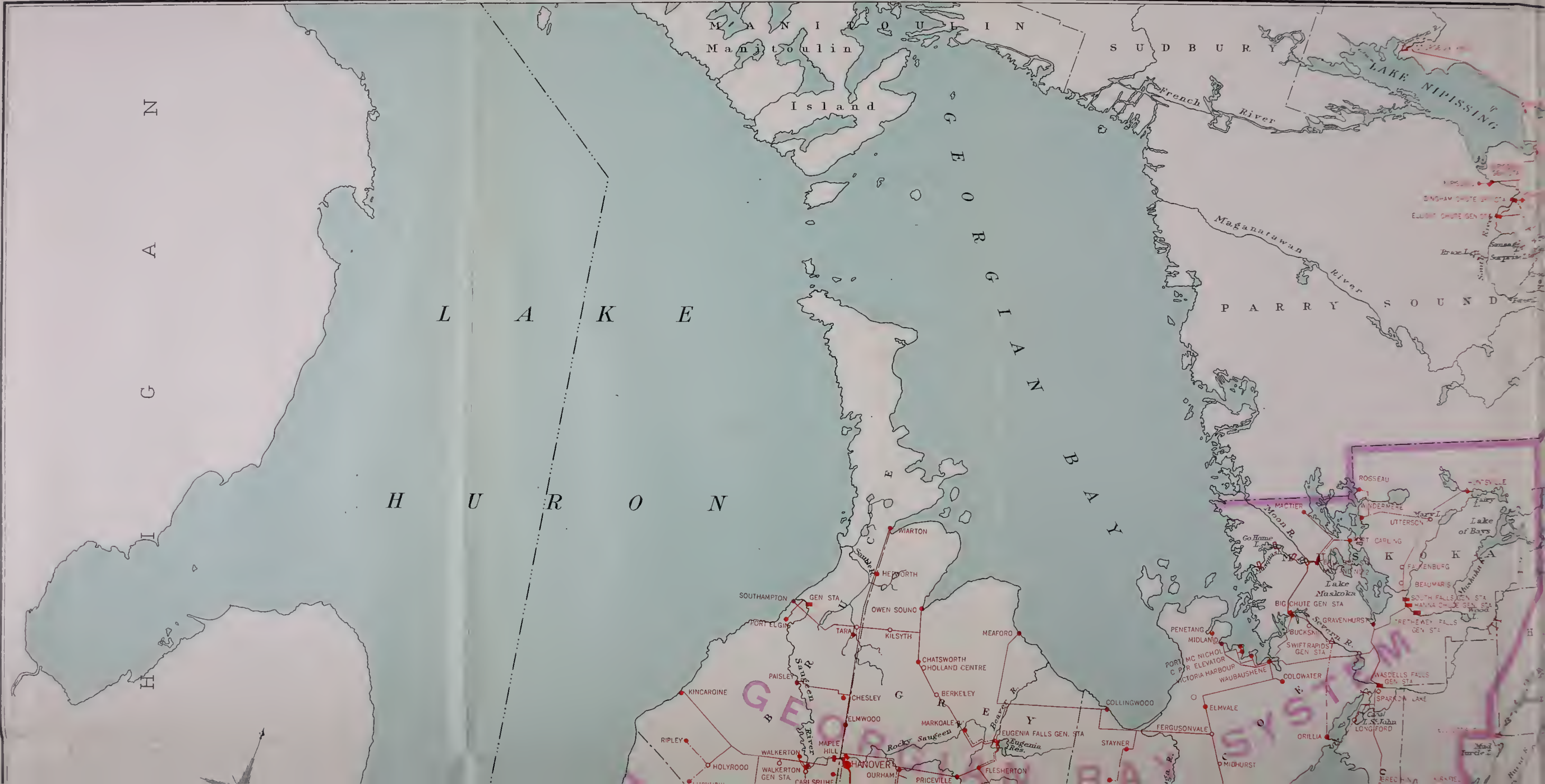
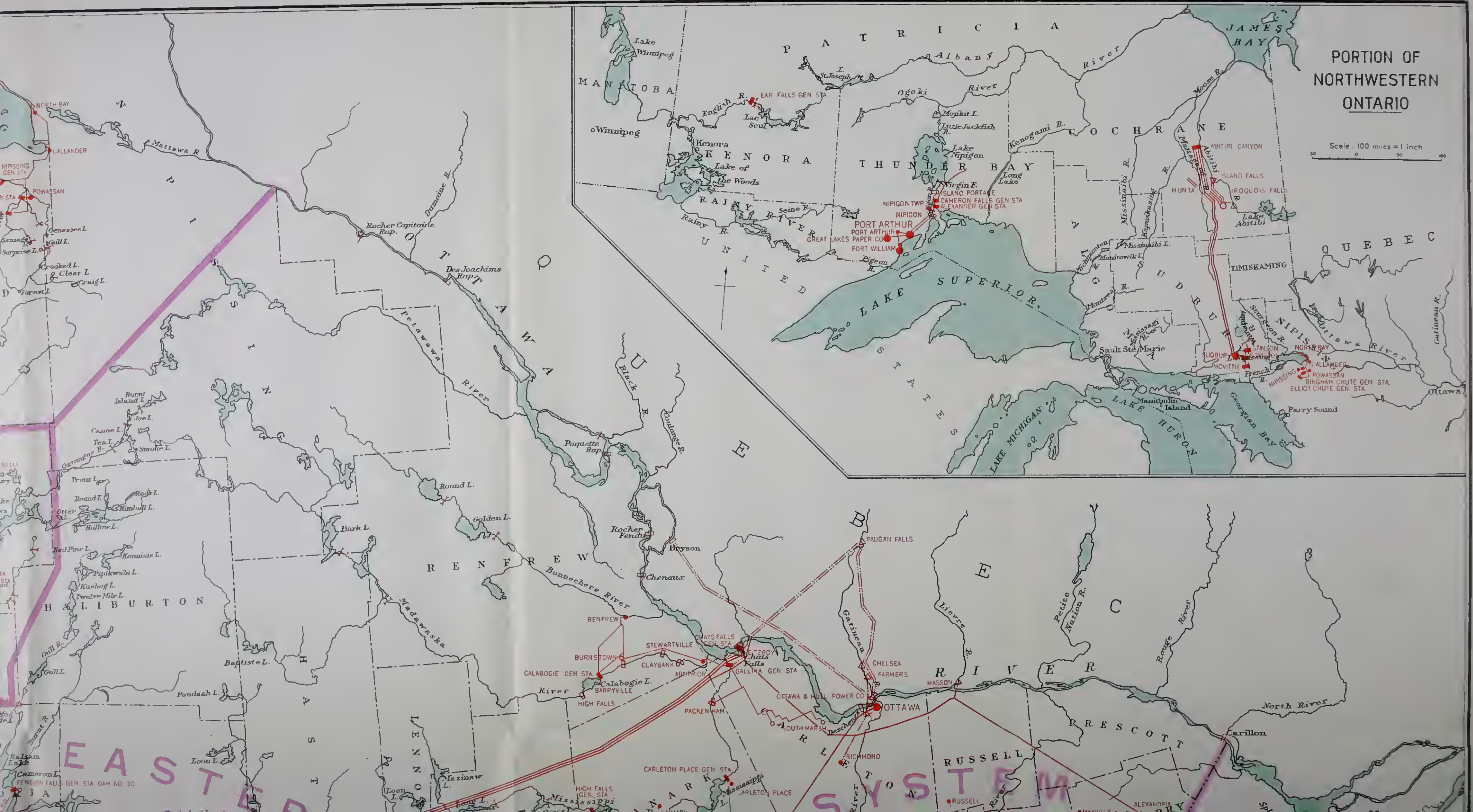
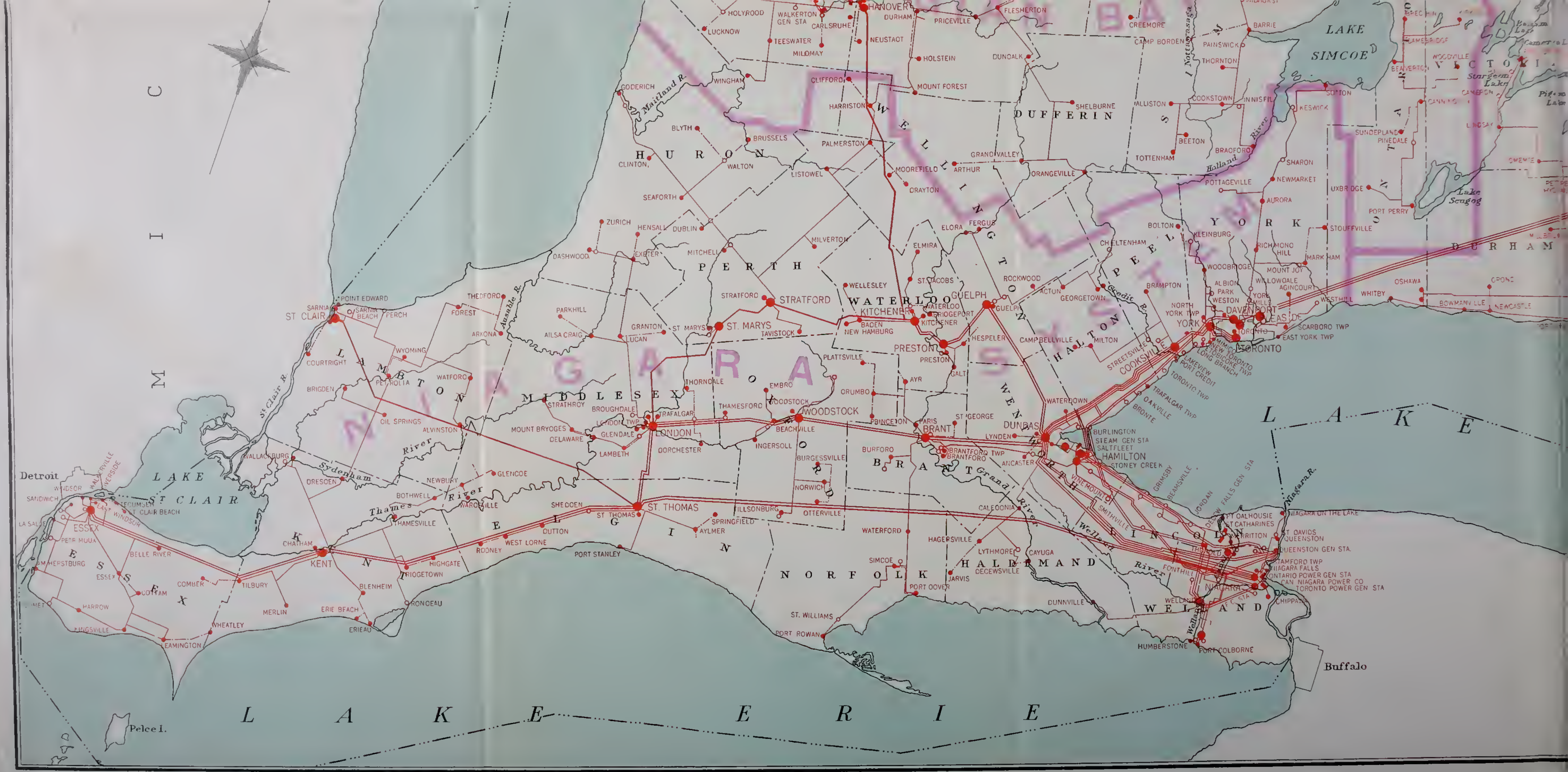
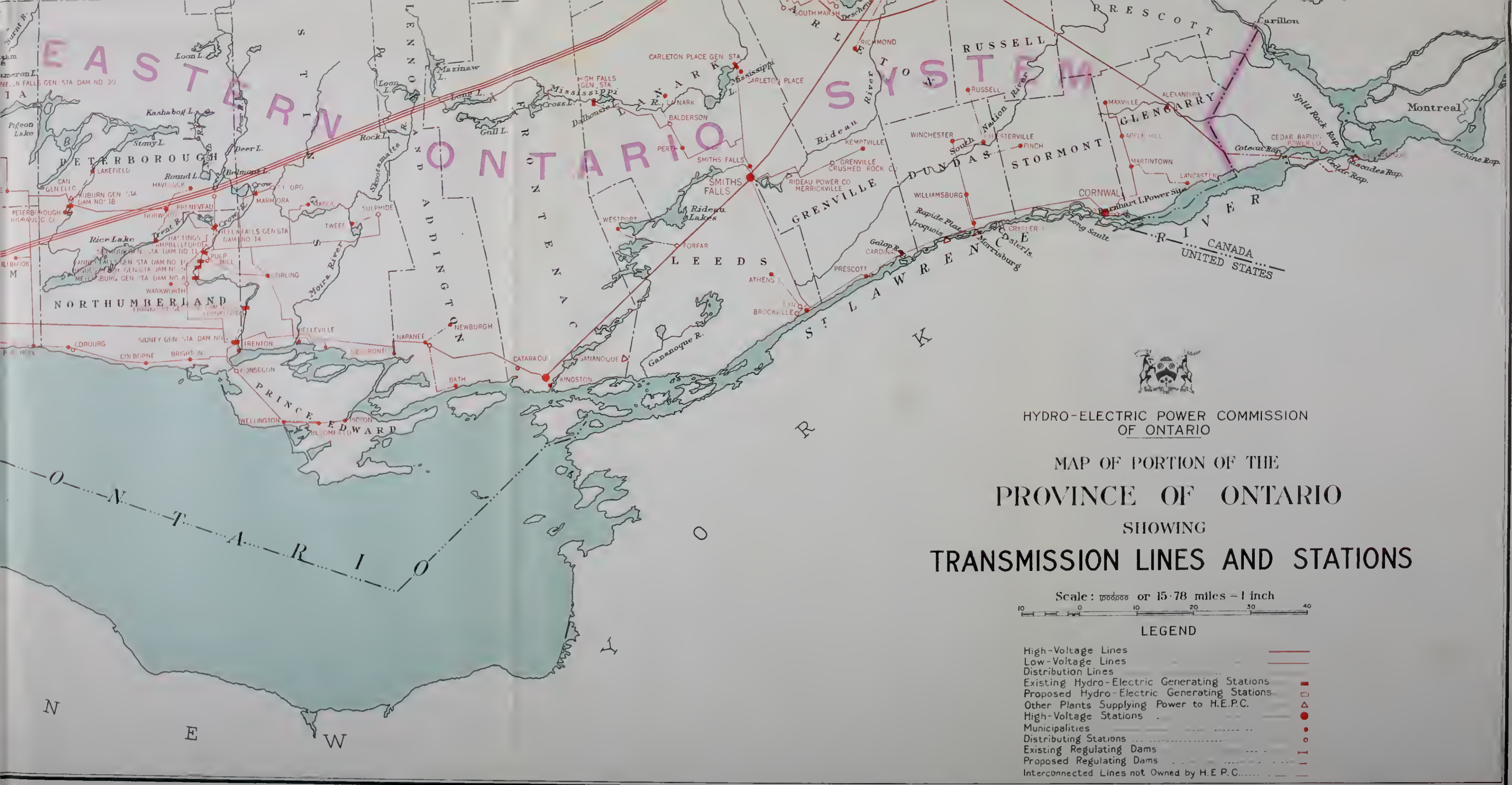

HIGAN
LAKE HURON
MANITOULIN
Manitoulin Island
SUDBURY
LAKE NIPISSING
French River
GEORGIAN BAY
Maganatawan River
PARRY SOUND
NIPISSING
BINGHAM CHUTE GEN STA
ELLIOT CHUTE GEN STA
Brace L.
BRUCE
GREY
MUSKOKA
SIMCOE
GEORGIAN BAY SYSTEM
WIARTON
Sauble R.
HEPWORTH
SOUTHAMPTON
GEN STA
PORT ELGIN
OWEN SOUND
TARA
KILSYTH
MEAFORD
CHATSWORTH
HOLLAND CENTRE
PAISLEY
Saugeen R.
KINCARDINE
CHESLEY
BERKELEY
Beaver R.
ELMWOOD
MARKDALE
Rocky Saugeen
EUGENIA FALLS GEN. STA
Eugenia Res.
RIPLEY
Saugeen River
MAPLE HILL
WALKERTON
HOLYROOD
WALKERTON GEN STA
CARLSRUHE
HANOVER
DURHAM
PRICEVILLE
FLESHERTON
COLLINGWOOD
STAYNER
FERGUSONVALE
ELMVALE
MIDHURST
PENETANG
MIDLAND
PORT MC NICHOL
C P R ELEVATOR
VICTORIA HARBOUR
WAUBAUSHENE
COLDWATER
ORILLIA
L. St. John
Canal
LONGFORD
SPARROW LAKE
WASDELLS FALLS GEN STA
SWIFT RAPIDS GEN STA
BUCKSKIN
Severn R.
GRAVENHURST
BIG CHUTE GEN STA
Lake Muskoka
Go Home L.
Moon R.
MACTIER
ROSSEAU
WINDERMERE
UTTERSON
Mary L.
HUNTSVILLE
Fairy L.
Lake of Bays
PORT CARLING
FALKENBURG
BEAUMARIS
SOUTH FALLS GEN STA
HANNA CHUTE GEN STA
Wood L.
TRETHEWEY FALLS GEN STA
Muskoka R.
Mud Turtle L.



PORTION OF NORTHWESTERN ONTARIO
Scale . 100 miles = 1 inch
P A T R I C I A
Lake Winnipeg
MANITOBA
oWinnipeg
Albany
River
L. St.Joseph
EAR FALLS GEN STA
English R.
Lac Seul
Ogoki
River
Mojikit L.
Little Jackfish R.
Kenora
K E N O R A
Lake of the Woods
T H U N D E R B A Y
Lake Nipigon
Kenogami R.
Long Lake
C O C H R A N E
JAMES BAY
Moose R.
ABITIBI CANYON
ISLAND FALLS
IROQUOIS FALLS
HUNTA
Lake Abitibi
Mattagami R.
Abitibi R.
Missinaibi R.
Virgin F.
ISLAND PORTAGE
CAMERON FALLS GEN STA
ALEXANDER GEN STA
NIPIGON TWP
NIPIGON
PORT ARTHUR
PORT ARTHUR
GREAT LAKES PAPER CO
FORT WILLIAM
Pigeon R.
RAINY RIVER
Rainy R.
Seine R.
U N I T E D S T A T E S
LAKE SUPERIOR
A L G O M A
Michipicoten R.
Manitowik L.
Missinaibi L.
Kapuskasing R.
Montreal R.
Mississagi River
Sault Ste Marie
S U D B U R Y
TIMISKAMING
Q U E B E C
NIPISSING
Sturgeon R.
SUDBURY
STINSON
MCVITTIE
NORTH BAY
CALLANDER
NIPISSING
POWASSAN
BINGHAM CHUTE GEN STA
ELLIOT CHUTE GEN. STA
French R.
Ottawa River
Gatineau R.
Ottawa
Manitoulin Island
LAKE HURON
Georgian Bay
Parry Sound
LAKE MICHIGAN
NORTH BAY
CALLANDER
NIPISSING GEN STA
POWASSAN
Mattawa R.
N I P I S S I N G
Genesee L.
Gull L.
Sausage L.
Surprise L.
Crooked L.
Clear L.
Craig L.
Forest L.
Rocher Capitaine Rap.
Des Joachims Rap
Dumoine R.
Petawawa River
O T T A W A
Q U E B E C
Black R.
Coulonge R.
Paquette Rap.
Burnt Island L.
Joe L.
Canoe L.
Tea L.
Smoke L.
Oxtongue R.
Trout L.
Round L.
Rock L.
Otter L.
Kimball L.
Hollow L.
Red Pine L.
Kennisis L.
Pipikwabi L.
Kushog L.
Twelve Mile L.
H A L I B U R T O N
Gull R.
Gull L.
Burnt R.
Balsam Lake
Cameron L.
FENELON FALLS GEN STA DAM NO 30
EASTERN SYSTEM
Round L.
Golden L.
Bark L.
R E N F R E W
Bonnechere River
Madawaska River
Rocher Fendu
Bryson
Chenaux
RENFREW
CHATS FALLS GEN STA
Chats Falls
FITZROY
STEWARTVILLE
BURNSTOWN
CLAYBANK
ARNPRIOR
GALETTA GEN STA
CALABOGIE GEN STA
Calabogie L.
BARRYVILLE
HIGH FALLS
Baptiste L.
Paudash L.
H A S T
L E N N O
Loon L.
Mazinaw L.
Long L.
HIGH FALLS GEN. STA
Mississippi
CARLETON PLACE GEN STA
CARLETON PLACE
L A N A R K
PACKENHAM
SOUTH MARSH
Deschenes
C A R L E T O N
RICHMOND
OTTAWA & HULL POWER CO
OTTAWA
PAUGAN FALLS
CHELSEA
FARMERS
MASSON
Gatineau
Lievre R.
Petite Nation R.
Rouge River
North River
R I V E R
E C
P R E S C O T T
Carillon
R U S S E L L
RUSSELL
ALEXANDRIA


NIAGARA SYSTEM
MICHIGAN
LAKE ST CLAIR
LAKE ERIE
LAKE ONTARIO
LAKE SIMCOE
Lake Scugog
Detroit
Buffalo
Pelee I.
HURON
PERTH
WELLINGTON
WATERLOO
DUFFERIN
PEEL
YORK
HALTON
WENTWORTH
LINCOLN
WELLAND
HALDIMAND
NORFOLK
BRANT
OXFORD
MIDDLESEX
LAMBTON
KENT
ELGIN
ESSEX
DURHAM
ONTARIO
VICTORIA
SIMCOE
St Clair R.
Sydenham River
Thames River
Ausable R.
Maitland R.
Grand River
Welland River
Niagara R.
Holland River
Credit R.
Nottawasaga
HOLYROOD
LUCKNOW
WALKERTON GEN STA
CARLSRUHE
TEESWATER
MILDMAY
HANOVER
DURHAM
NEUSTADT
PRICEVILLE
FLESHERTON
HOLSTEIN
DUNDALK
MOUNT FOREST
CREEMORE
CAMP BORDEN
BARRIE
PAINSWICK
THORNTON
GODERICH
WINGHAM
CLIFFORD
HARRISTON
SHELBURNE
ALLISTON
COOKSTOWN
INNISFIL
SUTTON
KESWICK
BLYTH
BRUSSELS
PALMERSTON
CLINTON
WALTON
LISTOWEL
MOOREFIELD
ARTHUR
GRAND VALLEY
ORANGEVILLE
TOTTENHAM
BEETON
BRADFORD
SHARON
NEWMARKET
AURORA
POTTAGEVILLE
CRAYTON
SEAFORTH
ZURICH
HENSALL
DUBLIN
EXETER
DASHWOOD
MITCHELL
MILVERTON
ELORA
FERGUS
ELMIRA
BOLTON
KLEINBURG
RICHMOND HILL
MARKHAM
STOUFFVILLE
UXBRIDGE
PORT PERRY
SUNDERLAND
PINEDALE
BEAVERTON
WOODVILLE
CANNINGTON
LINDSAY
CAMERON
THEDFORD
FOREST
ARKONA
PARKHILL
AILSA CRAIG
GRANTON
LUCAN
ST MARYS
ST. MARYS
STRATFORD
TAVISTOCK
WELLESLEY
ST JACOBS
WATERLOO
BRIDGEPORT
KITCHENER
BADEN
NEW HAMBURG
GUELPH
ROCKWOOD
ACTON
GEORGETOWN
CHELTENHAM
BRAMPTON
WOODBRIDGE
MOUNT JOY
WILLOWDALE
AGINCOURT
ALBION
WESTON
NORTH YORK TWP
YORK
DAVENPORT
LEASIDE
TORONTO
SCARBORO TWP
EAST YORK TWP
WEST HILL
WHITBY
OSHAWA
BOWMANVILLE
NEWCASTLE
ORONO
SARNIA
POINT EDWARD
SARNIA BEACH
PERCH
ST CLAIR
COURTRIGHT
WYOMING
PETROLIA
WATFORD
BRIGDEN
OIL SPRINGS
ALVINSTON
STRATHROY
BROUGHDALE
THORNDALE
EMBRO
THAMESFORD
WOODSTOCK
PLATTSVILLE
PRESTON
HESPELER
GALT
AYR
DRUMBO
CAMPBELLVILLE
MILTON
STREETSVILLE
COOKSVILLE
MIMICO
NEW TORONTO
ETOBICOKE TWP
LONG BRANCH
LAKEVIEW
PORT CREDIT
TORONTO TWP
TRAFALGAR TWP
OAKVILLE
BRONTE
LONDON TWP
TRAFALGAR
LONDON
MOUNT BRYDGES
DELAWARE
GLENDALE
LAMBETH
DORCHESTER
BEACHVILLE
INGERSOLL
PRINCETON
PARIS
ST GEORGE
BRANT
BRANTFORD TWP
BRANTFORD
LYNDEN
DUNDAS
WATERDOWN
ANCASTER
BURLINGTON
STEAM GEN STA
SALTFLEET
HAMILTON
STONEY CREEK
GRIMSBY
BEAMSVILLE
VINEMOUNT
SMITHVILLE
JORDAN
DECEW FALLS GEN STA
PT DALHOUSIE
ST CATHARINES
MERRITTON
THOROLD
NIAGARA ON THE LAKE
ST DAVIDS
QUEENSTON
QUEENSTON GEN STA
STAMFORD TWP
NIAGARA FALLS
ONTARIO POWER GEN STA
CAN NIAGARA POWER CO
TORONTO POWER GEN STA
CHIPPAWA
FONTHILL
WELLAND
HUMBERSTONE
PORT COLBORNE
DUNNVILLE
CAYUGA
LYTHMORE
DECEWSVILLE
JARVIS
HAGERSVILLE
CALEDONIA
BURFORD
BURGESSVILLE
NORWICH
OTTERVILLE
TILLSONBURG
SPRINGFIELD
AYLMER
WATERFORD
SIMCOE
PORT DOVER
ST. WILLIAMS
PORT ROWAN
PORT STANLEY
ST. THOMAS
SHEDDEN
DUTTON
WEST LORNE
RODNEY
WALLACEBURG
DRESDEN
NEWBURY
GLENCOE
BOTHWELL
WARDSVILLE
THAMESVILLE
CHATHAM
KENT
HIGHGATE
RIDGETOWN
BLENHEIM
RONDEAU
ERIE BEACH
ERIEAU
MERLIN
WHEATLEY
LEAMINGTON
KINGSVILLE
HARROW
TILBURY
COMBER
COTTAM
ESSEX
BELLE RIVER
AMHERSTBURG
PETR MOUA
LA SALLE
SANDWICH
WINDSOR
WALKERVILLE
RIVERSIDE
TECUMSEH
ST CLAIR BEACH
EAST WINDSOR


EASTERN ONTARIO SYSTEM
PETERBOROUGH
NORTHUMBERLAND
HASTINGS
LENNOX AND ADDINGTON
FRONTENAC
PRINCE EDWARD
LANARK
LEEDS
GRENVILLE
CARLETON
RUSSELL
PRESCOTT
DUNDAS
STORMONT
GLENGARRY
LAKE ONTARIO
NEW YORK
ST. LAWRENCE RIVER
CANADA
UNITED STATES
Rice Lake
Rideau Lakes
Montreal
Carillon
Peterborough
Lakefield
Havelock
Marmora
Tweed
Sulphide
Cobourg
Colborne
Brighton
Trenton
Belleville
Napanee
Newburgh
Deseronto
Cataraqui
Kingston
Bath
Gananoque
Picton
Wellington
Bloomfield
Consecon
Smiths Falls
Perth
Balderson
Lanark
Carleton Place
Carleton Place Gen. Sta.
High Falls Gen. Sta.
Westport
Forfar
Athens
Brockville
Prescott
Cardinal
Iroquois
Morrisburg
Williamsburg
Kemptville
Grenville Crushed Rock Co.
Rideau Power Co. Merrickville
Winchester
Chesterville
Finch
Russell
Richmond
Maxville
Alexandria
Apple Hill
Martintown
Lancaster
Cornwall
Cedar Rapids Power Co.
Campbellford
Warkworth
Norwood
Stirling
Tweed
Frankford

HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO

MAP OF PORTION OF THE

PROVINCE OF ONTARIO

SHOWING

TRANSMISSION LINES AND STATIONS

Scale: 1/1000000 or 15·78 miles = 1 inch

LEGEND

High-Voltage Lines
Low-Voltage Lines
Distribution Lines
Existing Hydro-Electric Generating Stations ▬
Proposed Hydro-Electric Generating Stations ▭
Other Plants Supplying Power to H.E.P.C. △
High-Voltage Stations ●
Municipalities •
Distributing Stations ○
Existing Regulating Dams
Proposed Regulating Dams
Interconnected Lines not Owned by H.E.P.C.

OCTOBER 31 1933

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